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BRITISH LOCOMOTIVE TYPES

This new edition has been completely revised and contains many additional plates. There are in all 140 outline diagrams, compiled from official drawings, giving main dimensions of all the standard and other principal classes of locomotives in use on British Railways.

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THE RAILWAY GAZETTE
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Railway Executive Loses General Slim

GENERAL SLIM'S appointment as Chief of the Imperial General Staff is a great loss to the Railway Executive. When, just over a year ago, the names of its nine first members were announced, the appointment of General Slim was the one big surprise. Yet he is the one member of the Executive, and in fact the whole set-up—Commission and Executives—regarding whom we have never heard anyone make a disparaging remark. We have heard plenty about almost everyone else. His approachability and disarming frankness in saying he knew nothing about railways at once engendered a feeling among all his colleagues and subordinates that they must not "let him down." In our opinion he was given far too much to supervise. In addition to being Deputy Chairman he had no less than four "functional" duties—Public Relations, Estate, Stores, and Police. Each of these four is surely a full-time job for anyone. Stores alone in a normal year involve a total expenditure of some £40,000,000. Instead of trying to find a successor to General Slim, a re-apportionment of the Executive's functional duties seems desirable.

* * * *

Feed the Brute

It is traditional that a Victorian mother always gave one piece of very sound advice to a daughter to promote happiness after her marriage and this was "Feed the Brute." Surely after reading the mixed bag of correspondence recently published in *The Times* under the heading "A Meal in a Train" the British Transport Commission will similarly admonish the Hotels Executive. Much of the popularity of the Midland Railway was due to its Hotels and Restaurant Car Service under the Towle régime. Until more rolling stock and timetable revision make possible "shorter trains and more of them" the Hotels Executive can help in enhancing the good will of British Railways by adopting as its slogan "better meals and more of them" and acting up to it.

* * * *

Union Criticism of Railway Executive

The National Union of Railmen for years was among the keenest advocates of railway nationalisation and through its organ, the *Railway Review*, constantly drew attention to the advantages which it was sure would flow from such a step. Little more than nine months' experience of nationalised transport, however, seems to be arousing doubt. In its October 8 issue the *Railway Review* declares that "centralised direction stultifies enterprise" and it makes considerable play with rumours of dissension in the Executive itself and divergence of view between the Executive and its Chief Regional Officers. It is very critical, too, of certain alterations being made in the handling and despatch of goods traffic and objects "to instructions being issued at short notice without any opportunity to show how ridiculous some of the new proposals are." It instances new rules for the allocation of traffic at Leicester. It points out that the shortest route linking Leicester and Nottingham is 24 miles between Braunstone Gate and Nottingham Queens Walk. The new scheme allocates this traffic from Leicester through Belgrave Road Station to Nottingham London Road, a distance of 64 miles.

* * * *

Objective of Scheme

We are informed that the reorganisation referred to by the *Railway Review* relates to lesser freight traffic only. There are three railway freight terminals serving Leicester—two are former L.N.E.R. terminals and one a former L.M.S.R. terminal. Before the changeover each railway independently collected traffic on to its own terminal for forwarding to all parts of the country regardless of duplication, and of whether or not a better service could be given were the traffics loaded at the other company's lesser terminals. The revised arrangement provides an interim guide line to the lesser traders and an instruction to the staff of British Railways designed to bring traffic into the freight terminal in Leicester from which it is believed that the best service to the public can be given. It is recognised that a changeover of this kind, in the initial stages, cannot be foolproof, especially in view of the progressive reorganisation which is in process of taking place in the freight terminal arrangements in all parts of

the country. Minor adjustments are to be made to the freight traffic scheme from week to week as experience shows them to be necessary.

A Pioneer Haulier Outside Nationalisation

One of the minor points of interest in the recent announcement of the sale to the B.T.C. of the Tilling road transport interests, is the exclusion from the deal of the comparatively small but interesting business of Ford Limited. This business is one of the oldest haulage companies still in existence, as it was founded in 1764 with an address at 23, Paternoster Square, Newgate Street, London. There it would accept addressed parcels, sort them and pack them into bulk consignments, and then send them to agents throughout the country for resorting and local delivery. In fact, Ford's in those days gave a nationwide parcels delivery service, for a small booking fee on each parcel, which is not so very different from what the G.P.O. does today. In more recent years, the business developed into road transport contracting and general carrying. The present company was incorporated on August 27, 1904, and the British Electric Traction Co. Ltd. purchased a substantial interest in it in 1910. This passed to Tilling & British Automobile Traction Limited in 1928, as part of the extensive reorganisation of that year. In 1930 it was acquired by Thomas Tilling Limited, and today the Ford business lies mainly in contracting for transport to City and West End business houses. As such, its activities are entirely outside the scope of the Transport Act.

Overseas Railway Traffics

Following a further two substantial increases of £26,628 and £29,811 during the fortnight ended October 1, Paraguay Central traffics at £1,324,039 for the first twelve weeks of the current financial year are £593,798 above those for 1947. On the Central Uruguay, aggregate traffics to October 2 are £436,487, and after successive improvements during the two weeks under review have recovered by £1,210 to £9,106 below last year. In the week ended September 25, United of Havana receipts again were affected by a strike on the Consolidated Railroad System and a cyclone caused further difficulty, so that traffics fell by £15,343 to a total of £31,498. Notwithstanding a settlement of the strike, there was a decrease of £16,624 in the second week and aggregate traffics are now £587,767 compared with £831,581 last year, for the 13 weeks. Declines have continued on the Leopoldina and at £60,526 for the first week, and £53,292 for the second, traffics were down by a total of £42,095 for the fortnight and show an aggregate drop of £447,905 at £33,804,000. Antofagasta made gains of £4,278 and £19,838, so that with an aggregate of £2,148,120 traffics are £464,680 above last year. During September, Taltal Railway traffics amounted to £8,255, or £2,845 more than for the equivalent month of 1947; on the aggregate, at £23,760, they are up by £7,345. La Guaira & Caracas receipts dropped by \$4,339 in September, to \$101,522, and show an overall fall of \$49,239, at \$938,856, since January 1.

Railway Engineers' Salaries

The human products of the railway locomotive works are everywhere in industry both at home and abroad. It is unfortunate for British Railways that of recent years the pay for assistants in the mechanical engineering departments has been so poor in comparison with private industry that there has been a drift of the more virile and intelligent young men away from the former companies. No self-respecting assistant at a large works will continue to serve at a salary less than that paid to the higher grades of supervisory staff, and such treatment sets up the corrosion of resentment among promising men. It is time that British Railways should take a realistic view of the situation and make the conditions of mechanical engineers as attractive as those operating in industry. It is a truism that to obtain quality one must pay for it, and it is also correct to state that since the war, in one Region alone, the most brilliant and progressive of its assistants in the Mechanical Engineer's department have departed to jobs which pay them probably twice or three times as much. This is an unhealthy state of affairs for British Railways. There is far too wide a gap between the salary of the C.M.E. and those who serve under him as assistants in the large works and elsewhere.

Freight Train Bonus Schemes

Some interesting details of the bonus schemes for freight trains, which were introduced in 1930 on the North Eastern Area of the then L.N.E.R., are given in the September issue of *British Railways Magazine* (*Eastern, North Eastern & Scottish Regions*). Elsewhere in this issue we give some extracts which show how the scheme works. Briefly, payment is made for time saved; the basis is taken on a 12-month average. The development of bonus working proceeded so rapidly on the L.N.E.R. that by 1935 there were over 100 individual train schemes and eight group schemes. At the present time there are in operation approximately 150 individual train schemes and 26 group schemes. The main objects are: reduction in the number of engines and engine hours, quicker clearance of running lines, improvement in transit time of goods, and quicker turn-round of wagons. Mr. F. J. Ridsdale, of the Superintendent's Office at York, who is the author of the article, considers that train bonus schemes have amply justified themselves from an operating point of view.

Scope for New Lighting Methods

This winter it is likely that a considerable extension of fluorescent lighting in commercial and industrial premises will be seen, the saving in power for a given level of illumination being an attraction in present circumstances. As public familiarity with fluorescent lamps increases, their adoption may come to be regarded as a sign of progressive management, and the possibility of using them more widely both on railway premises and in rolling stock will come under consideration. Objections to the quality of light are heard less often now that new colours are available, for use singly or in conjunction with the earlier "daylight." The characteristic flicker of hot-cathode lamps when switching on can be overcome by using circuits which have the associated advantage of dispensing with the special starter switch. Shorter lamps, down to 2 ft. or 18 in., make the planning of varied types of installation easier than when the normal fluorescent tube measured 5 ft. or so, and the reduction in size of chokes and capacitors enables them to be concealed within the fittings. When length is no drawback, the high-tension cold-cathode tube can be used, and would appear to have possibilities for rolling stock lighting in view of its robustness and long life, to say nothing of the problem its removal would present to the pilferer of bulbs.

Timbers in Sea Water and Boring Molluscs

The protection of timbers of all kinds immersed in sea water from the depredations of the teredo and other marine borer animals is the subject of a report published by the Institution of Civil Engineers and reviewed in this issue. One of the points stressed in the report is the comparative immunity from attack by these borers enjoyed by timbers installed in cold sea waters, notably north of the Mersey and Humber, and the increasing danger of damage in proportion to the rise in temperature of the sea as one proceeds southwards. In the tropics, almost all woods except greenheart, Burmese pyinkado, jarrah, and a few other very hard species, are liable to be riddled sooner or later by one or other of these pests. Many other, and softer, timbers can, however, be protected by impregnation under pressure to a depth of about $\frac{1}{4}$ in. with ordinary coal-tar creosote, and their lives prolonged accordingly.

The Teredo Thrives in Warm Water

For some years, timber structures immersed in the tidal basin at Shoreham Harbour, Sussex, have been seriously damaged by the ravages of the teredo. These are, undoubtedly, encouraged by the comparatively high temperature of the water, which is virtually stagnant and enclosed, except at high tide when the lock gates are opened for shipping to enter and leave the basin. One reason for the warmth of the water has been the constant inflow of hot water from the big quay-side electric power station at Southwick. The activities of the teredo have been greatest in the vicinity of the power house, where the water is warmest, but we understand that the hot-water discharge is being diverted elsewhere, so that the temperature of the water in the basin will

be unaffected by it. In this way, it is hoped that the life of the timbers used for piles, quays, and jetties will be considerably increased, and that the frequent renewals now necessitated will be reduced to a minimum.

* * * *

Southwick Power Station

Reference in the preceding note to the Southwick power station on Shoreham Harbour reminds one that it is one of the principal sources of supply of current for the Southern Region electric services. British Railways are, therefore, closely concerned with the great extension of this power plant recently begun. Its size, probably, will be doubled and the cost of the new works involved is estimated at £14,000,000. This extension was planned and inaugurated before the nationalisation of the electrical industry, when the Southwick station was the property of the Brighton Corporation, and it is of interest to note that the Brighton authority had its own colliers for bringing coal directly by sea from the coalfields to the harbour, where it is mechanically conveyed to the power house. When the extension is completed, Southwick will be one of the largest, if not the largest, generating plants in the country outside the metropolitan area. Apart from the power station, the Southern Region is interested in Shoreham Harbour, to which it has direct access at Kingston Wharf.

* * * *

Canadians Discuss Gas-Turbine Locomotives

At a meeting of the Canadian Railway Club, held in Montreal on March 8, 1948, Mr. John I. Yellott, Director of Research of the Locomotive Development Committee of Bituminous Coal Research Incorporated, gave a lecture on the coal-burning gas-turbine locomotive, which in recent years has been the subject of intensive research in America. Mr. Yellott illustrated the great need for perfecting such a machine, by means of a diagram showing the relative production and the estimated amounts of reserves of coal, natural gas, and petroleum in the United States. He showed further that though there is an increasing gap between petroleum production and proved reserves in each of the past ten years in that country, the price of crude oil has risen greatly during the past two years. It is economically preferable to burn coal as a solid fuel, rather than to use it for conversion into oil products. Moreover, coal is cheaper than diesel oil, and the average cost of 1 million B.Th.U. is 20 cents when produced from coal, as against 90 cents when diesel oil is used. Mr. Yellott fully described the technical details of two coal-burning gas turbines, one of which has been constructed by the Elliott Company and the other by the Allis-Chalmers Company. We hope to publish an illustrated account of the latter in a forthcoming issue.

* * * *

Transport Experiments

WITHIN the British Isles at the present time three separate transport systems are undergoing a period of experiment and development. In two cases the necessary statutory steps have been taken recently; under them the British Transport Commission and the Ulster Transport Authority have been established. The first of these has been operating since the beginning of this year, and the second since the beginning of this month. The third system, in Eire under the Irish Transport Company (Coras Iompair Eireann), has been in being since the beginning of 1945, but because of the financial and other difficulties which have arisen it is now awaiting the report of Sir James Milne's inquiry.

There are great divergencies between the three systems, but the major problem and objective is common to all. This is how best to organise a unified system of internal transport which will give an efficient and economical service to the travelling public and traders of the territories affected. The English experiment is by far the largest and the most complex, not only by reason of the magnitude of the operations involved. Both the Northern and Southern Irish systems are relatively small, and the territories they serve and the volume of traffic they carry are in no way comparable.

Nevertheless, in a common attempt to achieve similar objectives it may well be that each of these varying transport

systems will be able to learn from the others, as much perhaps from mistakes as from achievements. The Ulster Transport Authority, for example, does not favour functional membership of its executive body—a principle which so far has been confined in its adoption to the Railway Executive of the British Transport Commission.

The British transport system, also, is alone in its preference for the establishment of separate Executives for the various branches of transport controlled by the main body—the British Transport Commission. Whether the twin objectives of unification and co-ordination can be best achieved by an initial policy of disintegration, such as is involved in the separation of railway docks, railway hotels, railway canals, and railway road transport from the railways of which they previously formed part, remains to be seen. In any event it has to be remembered that the present set-up under the British Transport Commission is not fixed for all time, and it may well be that changes may be made in the light of experience. A certain amount of development in the direction of centralisation of organisation in various departments is already under way.

* * * *

The Indian Government Railway Inspectorate, 1946-47

THE annual report of the Chief Government Inspector of Railways in India for the year ended March 31, 1947, has now reached us. The staff of the Inspectorate, which was under the Ministry of Communications, consisted of one Chief Inspector, five inspectors, each responsible for a circle, and a leave reserve officer. The duties of the inspectors—in addition to those for which their counterparts in this and other countries are normally responsible—had included *ex-officio* directorships of certain branch-line companies, enabling them to watch the interests of the Government and protect those of the shareholders. On October 1, 1946, however, all inspectors were relieved of these additional duties.

No new lines were opened to public traffic during the year under review, but two sections of the North Western Railway, one 15 and the other 14 miles in length, with the inspector's approval, were realigned; a ten-mile length of narrow gauge in Assam was also converted to metre gauge. A by-pass line, about two miles long, at Arakonam, was closed. Nearly 24,200 route-miles of line were inspected during the year by all inspectors, or roughly 60 per cent. of the total route-mileage open to traffic. Approximately half of these were detailed inspections, and the other half tour inspections.

Included in the various sanctions accorded by inspectors were those for the running of specific types of locomotive over particular sections of line, and 11 instances of approval to infringements of the Schedule of Dimensions. Six other infringements detected by an inspector in the course of inspection were removed. The work of eliminating the 12-ft. spacing of the double-line tracks on the Bhore and Thull Ghats, on the G.I.P.R., continued.

During 1946-47, 22 accidents were inquired into by the inspectors. Of these, nine were cases of collisions in which passenger trains were involved, seven were derailments—four of them deliberate cases of train wrecking—one was due to defective stock, two were fires in passenger trains, one involved a passenger train colliding with road traffic at a level crossing, and there were two miscellaneous accidents. Failures of train crews were responsible for four of the collisions, failures of both train and station staffs for two, failures of station staffs for two, rashness of a road vehicle driver and failure of a level crossing keeper for two, and open carriage doors on parallel tracks with inadequate spacing accounted for one. The failure of station staff was the reason for one derailment and the failure of other staff for a second; in the only other one not due to sabotage, no cause could be assigned.

Two accidents investigated were due to unusual causes. In one, part of the engine brake gear broke loose and fell on a signal wire. The wire snapped and one of the broken ends of it recoiled against a passing coach, hitting a passenger, who was resting his head on the window, with fatal result. In the other, a driver received extensive burns as a result of the working loose of four clamps securing a Bowman baffle-plate in position. When the driver opened the regulator, the blast

lifted the loose Bowman plate and swung it into a position obstructing the blast and causing the blow-back.

Of the five major accidents involving the heaviest casualties, three were cases of derailment caused by deliberate tampering with the track. Two were on the Bengal & Assam and one on the Oudh & Tirhoot Railway, and together they involved the loss of 39 lives and injuries to 95 other persons. The other two accidents were collisions at stations. At Bhatni, on the Oudh & Tirhoot Railway, one passenger train ran into the rear of another, which was stationary, owing to the driver of the former overrunning signals; 24 persons were killed and 23 seriously injured. Cost of damage to railway equipment was about £3,700. Then, at Ongole on the Madras & Southern Mahratta Railway, No. 1 down Calcutta mail collided with the engine detached from an up goods train and taking water at the column. 38 people were killed and 87 were injured. Damage to railway equipment amounted to about £5,300. The Chief Inspector's report on this accident reads:—

"This accident was due to the cabinman taking off the down main reception signals by irregular means, that is, by hand-pulling the signal wires, after having realised by the feel of the lever that the wire, connecting it to the signal, had broken owing to the application of excessive force which he had recourse to, as his normal attempt to lower the down main home signal was unsuccessful. He was not aware that the real cause of his inability to lower the signal by the relevant lever was that the route was set for the loop line and, therefore, the detector attached to the switches was fouled, and this prevented the normal movement, although the indication of the levers in the cabin showed the points set and locked for the main line. The Government Inspector was of the opinion that this conflicting condition was brought about by the severance of the connection between the relevant lever and the switches of the down facing points, and that the most probable cause of the severance was a train trailing through these points, resulting in the adjusting sleeve of the adjusting crank, connecting the lever with the switches, being broken."

Thurgoland Tunnel, Eastern Region

THE first major new work to be completed since the nationalisation of the British railway system was brought into use on Sunday, October 3, when the new single-line tunnel at Thurgoland, on the Manchester-Sheffield main line of the Eastern Region, was opened. The tunnel is an important preliminary work for the electrification of this route, which is now proceeding, and its construction was necessitated by the impossibility of obtaining sufficient clearance in the existing double-line tunnel for overhead equipment for two tracks.

The original tunnel was authorised in 1837, and opened on July 14, 1845. The location of the route from Manchester to Sheffield was undertaken by Charles Vignoles, but the construction of the railway was supervised by his successor, Joseph Locke. The general excellence of Locke's work is substantiated by examples which can still be seen, and it is surprising that the contour of the tunnel at Thurgoland is irregular. The tunnel is 14 ch. long, and is built on a gradient of 1 in 136, falling towards Sheffield, and on a curve of about 60 ch. radius. It is lined throughout with local grit stone, and is still in good condition. There are no signs of deformation, except at a point immediately inside the eastern (Sheffield) portal, where strengthening with steel ribs became necessary. There are no records of any subsequent movement having taken place. To obtain the maximum lateral clearance, the up and down tracks were laid on different levels, and the 6-ft. way was narrowed. As the dimensions of rolling stock increased, the clearance restrictions in the tunnel became more acute, and necessitated the closing of the opposite line when larger types of rolling stock, and out-of-gauge loads were passing.

In 1924, a scheme for opening out the tunnel was considered, but not adopted, although the necessary land was purchased. This scheme was re-examined, when work on the Manchester-Sheffield electrification was resumed, after the recent war, but was abandoned on the grounds of expense. It was then decided to drive a separate tunnel for the down line, and to realign the up track in the centre of the old tunnel. Ample clearances for modern rolling stock, and overhead electrical equipment were thus provided on both tracks.

Jubilee of the A.R.E.A.

WE congratulate the American Railway Engineering Association on its golden jubilee which is being celebrated this year. Founded, originally, as an independent body, the Association subsequently became the Engineering Division of the Association of American Railroads, though it is still known as the A.R.E.A. Its membership and activities extend, not only over the U.S.A., but throughout the American Continent. Thanks to backing by the Association of American Railroads, the A.R.E.A. has been able to organise continuous and comprehensive research in recent years. The cost of this programme, which is financed by the A.A.R., has increased from £15,600 in 1938 to £73,000 in the current year. The A.R.E.A. also has the close support of individual railways, who encourage their engineers to avail themselves of the liberal amount of time they allow them to further the activities of A.R.E.A. Realising the value of its conclusions the railways readily accept the standards the Association recommends.

Organisation and methods of procedure take the form of about 20 standing committees, each dealing with a different aspect of railway engineering, or a particular feature of that aspect, and the subjects to be investigated are selected by the Council to ensure systematic planning. We understand, however, that this centralised direction of planning is not overdone, and that procedure is leavened by a modicum of individual research and presentation of papers, so that the encouragement of initiative, especially in the younger members, is not overlooked. Among the important subjects studied by the A.R.E.A. are stresses in track and rails and the causes of, and remedies for, rail fractures due to transverse fissures, these resulting in improved manufacturing processes and the use of the Sperry detector car for locating incipient fissures. The association records the results of its investigations in the *A.R.E.A. Manual*. This is a large volume in loose-leaf form and the standard hand-book for American maintenance and construction.

* * * *

Western Australian Government Railways

COMMENTING on the results for the year ended June 30, 1947, Mr. J. A. Ellis, Commissioner of Railways in Western Australia, says that they emphasise still further the financial slough in which the department is drifting, as a result of the policy followed in recent years whereby it carries the burden of post-war costs while continuing to operate at pre-war charges. The year saw a further rise in uncontrollable costs brought about by basic wage and award increases, and it closed with a deficit, after payment of working expenses and interest, of £1,410,856, a retrogression of £41,052. Although the earnings of £4,045,935 were only £60,783 lower, working expenses rose by £397,095, and would have been still higher but for the shortages of manpower and materials for maintenance work.

The Commissioner, to whom we are indebted for a copy of the report, says that the ceiling of costs has not yet been reached and still greater losses must be expected in the near future. Proposals for increases in rates have been opposed strenuously, and statements have been made to the effect that the department has reached the stage where it is no longer in a position to handle all goods traffic. Figures are quoted in the report, therefore, to show that, relative to the effective locomotive power available, a greater tonnage of goods is being handled than ever before, under greater difficulties. Some operating results for the past two years are compared in the table below:—

	1945-46	1946-47
Mileage open ...	4,381	4,348
Train-mileage ...	6,409,278	6,727,963
Passenger journeys ...	17,372,954	13,878,518
Goods ton-miles ...	351,832,853	365,778,450
	£	£
Passenger receipts ...	1,323,860	1,069,276
Goods receipts ...	2,673,974	2,809,838
Miscellaneous ...	108,884	166,821
Total ...	4,106,718	4,045,935
Working expenses ...	4,026,706	4,423,801
Surplus (+) or deficit (-) ...	+80,012	-377,866
Interest charges ...	1,039,816	1,032,990
Deficit ...	959,804	1,410,856
Operating ratio ...	98.05	109.34

Total passenger journeys declined under nearly all headings and particularly in suburban traffic, where there was a

drop of 3,099,684. Major factors influencing passenger business in the year reviewed by the report was the decline in defence traffic and the strike in November, 1946, which completely paralysed rail traffic for 16 days. However, omitting the abnormal earnings of the years between 1942 and 1946, passenger journeys and revenue on country and suburban lines for 1946-47 were considerably in excess of the figures for the years 1931-1941, indicating that the department is retaining old and securing new business. Goods earnings, it is also clear, showed an increase, and there has been a constant upward trend from 1944 onwards in the ton-mileage figures. Civilian traffic, although generally low-rated, has quickly filled the gap left by the withdrawal of military goods, to such an extent that at times the department was hard pressed to meet all the demands made on it.

Train-mileage was the highest since the inception of railways in the State. Country passenger-mileage increased and the mileage of mixed trains was lower, reflecting the department's post-war policy of substituting separate passenger and goods trains for mixed services. Wherever practicable, the mixed train is being eliminated, and passenger requirements have been met by the extension of railcar services to the limit possible with the existing fleet. There have been various improvements in the amenities provided for passengers on long-distance trains, including the provision of a hot water service in sleeping cars and improvements in the furnishing of lounge cars. Road passenger services have been extended and increased. From September, 1946, until the end of the financial year, the department began a gradual absorption of the major refreshment rooms and dining cars, where the service previously had been provided by contractors. Special attention has been paid to the overhaul and refurbishing of dining cars.

There was a reduction of 33 miles 62 ch. in the main-line route-mileage, resulting from dismantling the railway between Hopetoun and Ravensthorpe. This line has been out of use for several years, and its demolition was sanctioned by an Act of Parliament of November 13, 1946. The department received 14 "U" class 4-6-2 locomotives during the year. These were purchased from Great Britain, having been built by the North British Locomotive Co. Ltd. in 1943 for wartime service in various parts of Africa, but eventually not required for those duties. They are reported to be giving excellent service on fast trains on the South Western and Great Southern lines. It has been decided, also, to obtain 25 more "PR" class locomotives from Great Britain, delivery of which has been promised for the latter end of 1949. To meet the need of more locomotives suitable for operation on lines with light permanent way, a specification for a 4-8-2 tender type has been drawn up in outline, and a British firm has reserved capacity for building 30 such locomotives, to be ready for delivery early in 1950.

* * * *

Bus Co-ordination in West Wales

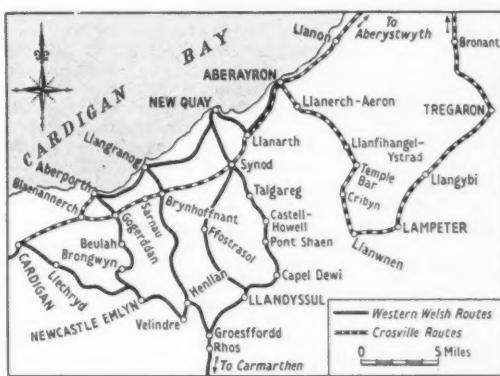
SPEAKING a few weeks ago at the 28th ordinary general meeting of the Western Welsh Omnibus Co. Ltd., the Chairman (Mr. John S. Wills) said that arrangements had been concluded recently in North Cardiganshire for adjustments in services and complete co-ordination in that area. He added that other similar arrangements were in mind, all aiming at the one important object of making available all bus seats serving the area, no matter which company or undertaking was concerned. The North Cardiganshire co-ordination provides an interesting example of straightening out slightly anomalous situation which arose through the acquisition by railway-associated bus companies of services formerly operated by the Great Western Railway.

On March 27, 1929, an agreement was made between the G.W.R. and South Wales Commercial Motors Limited, for the conversion of the bus company into a public company under the title of Western Welsh Omnibus Co. Ltd., and for the railway company to sell to it the whole of its passenger road transport business in Wales, and in the County of Monmouth, other than the services expressly excepted from the agreement. The exceptions were routes worked from depots in North Wales and also Aberystwyth, including the Aberystwyth-Cardigan service. In effect, this amounted to the whole of the

business south of a line drawn from Aberystwyth to Hereford, but with the Cardigan service remaining outside the arrangements.

Later in 1929, the G.W.R. acquired a large interest in a Wrexham company which became the Western Transport Co. Ltd. This company took over the balance of the G.W.R. bus services in Wales, including the Aberystwyth-Cardigan route. On May 1, 1933, the Western Transport was absorbed by Crosville Motor Services Limited under a North Wales Co-ordination Scheme, and thus two railway associates were serving the district between Aberystwyth and Cardigan. The Western Welsh worked the Carmarthen-Synod Inn-New Quay route, the Newcastle Emlyn-Aberporth route, and a market-day service, not now in operation, between Newcastle Emlyn and Cardigan via Brynhoffnant. On January 2, 1933, the Western Welsh acquired the service operated by J. R. Adams between New Quay and Aberystwyth, and began subsequently to operate between New Quay and Llangranog. There was no direct Western Welsh service between Aberystwyth and Cardigan.

The G.W.R. was a pioneer in this area, establishing a bus route between Aberystwyth and Lampeter as long ago as October 1, 1906, at a time when a light railway scheme was under discussion. Eventually, the light railway was built (and worked under Agreement by the G.W.R.), and opened for passenger traffic on May 12, 1911. Two days later the buses were withdrawn. The trunk route between Aberystwyth and Aberayron



(with a summer extension to New Quay) which had been established on November 5, 1906, continued to be worked until March 31, 1917, when its suspension was necessitated by the First World War. After that war, private operators served the area. The Crosville Company was gradually extending down the Welsh Coast and began in Aberystwyth in July, 1924. This company bought a service Aberystwyth and New Quay from D. M. Jenkins on February 21, 1925, and the G.W.R. decided to resume its own operations as part of a scheme of general development. It inaugurated a through route from Aberystwyth to Cardigan via Aberayron and New Quay on July 22, 1925. In November of the same year, the Crosville Company bought an Aberystwyth-Cardigan service from Hooker, and thus was serving the district some years before the railway shareholdings in bus companies. Simultaneously with the Crosville acquisition of Western Transport, it also took over (on May 1, 1933) the substantial Aberystwyth business of Jones Brothers, which included an Aberystwyth-Aberayron route, and one from Aberystwyth to Lampeter.

The present co-ordination, which came into operation on June 7, amounted to the Western Welsh Company taking over from Crosville two services in the New Quay area, namely, New Quay-Llangranog-Aberporth; and New Quay-Synod Inn. Crosville Motor Services continues to operate through services from Aberystwyth to New Quay via Aberayron during the summer months only. Arrangements are in operation for through bookings between the two companies in conjunction with the New Quay-Synod Inn section and the Crosville Aberystwyth-Synod Inn-Cardigan route, connections being made in both directions at Synod Inn. Through bookings are also in operation between Aberystwyth and New Quay, passengers interchanging at Aberayron.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

The Distant Signal

The Old Manor,

Salisbury, Wilts. September 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—A letter direct from a correspondent suggests a possible point of confusion and misunderstanding. Quite a number of people in the past have referred to the first signal to be met as both a stop signal and a distant. This could well be an outer home, because it had no reference to subsequent signals, and was the distant signal in the linear sense, being the farthest away, and to distinguish it from the ones nearer in. Later this signal was given its present meaning, referring to all signals ahead of it and controlled from the same box. Outer homes are used today with a distant outside them again. The two signals never were the same, and the distant as we know it never was a stop signal.

What Mr. Roberts advocates in his letter in your September 10 issue is doing away with the distant and substituting an outer home, which might not be desirable.

Yours faithfully,

COURTENAY BARRY

Locomotive Fuel Economy

16, Glenmore Road,
London, N.W.3. October 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Further to my letter in your September 17 issue, maximum tractive effort, usually achieved at starting or at low speeds, should not be confused with maximum tractive power, usually achieved at considerably higher speeds. In France (as elsewhere) conditions applicable to starting, with heavy trains, represent only a fraction of any locomotive's working, except on shunting services, and in Britain relatively few existing steam locomotives can work at particularly early cut-offs.

Surely Mr. Spurrier, in your October 1 issue, is somewhat over-taxing both his own imagination and your readers' credibility by stating that French compound locomotives "are usually worked at such late cut-offs that the overall expansion is less than is commonly attained in British simple locomotives." Sometimes, perhaps, but not usually! As Mr. Spurrier is interested in the work of that eminent French engineer, M. Chapelon, he should read his treatise on "La Locomotive à Vapeur" —especially Section III.

Yours faithfully,

R. OPIE

French and Spanish Railway Impressions

5, Yewlands Crescent,

Fulwood, Preston. September 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—It was many years before the war when I last travelled on the French railways south of Paris, so whilst I was on holiday I was agreeably surprised to find the old Paris Orleans Railway electrified as far as Narbonne, which is 540 miles away from Paris on the Mediterranean Sea.

In spite of the difficulties the French have had to contend with, the 445 miles to Toulouse were covered at an average speed of 50 m.p.h. including some fairly lengthy stops. It was very pleasant to be able to have the windows open without getting all the dirt and grit from a steam locomotive in the compartment. After Narbonne a steam locomotive took over and the difference was then noticed. Excellent meals were provided in the restaurant car, but they are expensive.

The heavy long-distance expresses are hauled by 2-D-2 locomotives built about 1929. These engines, receiving direct current from the overhead line at 1,500 volts, have one hour h.p. of 4,000, and as the four motors are controlled on the double series parallel system, utilising extensive motor field control, a total of 13 running notches is available. These locomotives feel easily on top of their work handling trains of 500 tons trailing speeds of 80 m.p.h. being attained.

As I sat back and watched mile after mile go by of their overhead equipment and so on, I felt it almost must have wrecked the economy of France to put it all up. To supply these heavy locomotives with current there are two running wires of copper each about $\frac{1}{4}$ in. dia. plus primary and secondary catenary wires. Fortunately, as you have often pointed out in *The Railway Gazette*, France is supplied largely by hydro stations.

We in England must electrify our railways if they are going

to survive as a means of transport, but careful consideration will have to be given to choose the most economic system, and we shall have probably to consider the use of aluminium instead of copper for the overhead contact wires. We must profit also by the experience of other countries and not make the mistake of providing locomotives of inadequate capacity, but make provision for locomotives for heavy high speed work. When France decided to electrify her main lines much smaller locomotives were visualised; in fact, for service on the Midi Railway, the first to be electrified for main-line work, the earlier locomotives were of about 1,400 h.p. These were used to handle heavy trains between Toulouse and Dax, but speeds were low. I worked on the section for some time and I was ashamed of the poor showing of electrification. France has progressed a long way since then, but she has stuck to her original system, which is a remarkably good one but for the heavy cost of the copper and sub-stations.

Just a note in passing regarding the Spanish railways. By comparison with the French they are now very poor. The rolling stock is dilapidated and schedule speeds are low, but trains are punctual.

An unusual incident occurred on our way back from Spain to France. We had rather a long stop at the Spanish frontier station because of passports and money control, and when we arrived at the French frontier station we were told calmly that the Paris train had departed 15 min. ago. This I found very disturbing, having my wife and family with me, as this was the only train that would get us to Paris to connect with the plane on which we had reservations to Manchester.

There was a train waiting in the station for Marseilles and Geneva, so we decided to take it as far as Narbonne where we could spend the night much better than in the small frontier town. However, on arriving at Narbonne, to our joy we found that the Paris train was still waiting there, and had been for two hours, so we made our Paris connection.

Yours faithfully,

H. CHARNLEY

Continuous Brakes for Freight Trains

Ferrocarril Central del Uruguay,

Estación Central, Montevideo,

Uruguay. September 25

TO THE EDITOR OF THE RAILWAY GAZETTE
SIR.—Mr. Richard Parkes, in your July 30 issue, has opened a controversy on an interesting subject.

I feel, as an officer of one of the railways whose freight rolling stock is fitted with continuous brakes and hand-brakes, that I am in a position to reply to some of the questions raised with regard to the advantages to be derived from the use of them.

The Central Uruguay Railway has had continuous brakes on its freight rolling stock since the year 1890, and this has been found efficient and successful in every respect. There is no doubt that the topographical layout of the line has an important influence on the introduction of such an innovation. On this railway, 73 per cent. of the total is on a gradient and 34 per cent. of the total is on a curve, with a minimum radius of 300 metres and an average radius of 600 metres.

Let us consider the time lost marshalling at the starting point and splitting a train at its destination or *en route*:

MARSHALLING AT COMMENCING POINT

From available statistics, the following times were taken to couple up a train consisting of 24 wagons and brake:

(i) Coupling up, screw couplings, 18 in all	12 $\frac{1}{2}$ min.
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(ii) Coupling up, brake pipes, 18 in all	4 $\frac{1}{2}$..
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(iii) Time taken to obtain sufficient vacuum	3 ..
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Total	20 ..
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Note.—This does not include shunting time.

I would mention here that there are also occasions when time is lost in the marshalling yard through a leak in one or more of the brake pipes; this, of course, has to be traced and put right before the train is able to leave. If the same train had been fitted with simple link couplings, I estimate that the saving would have amounted to approximately 15 min.

The longer time taken to couple up and split freight trains fitted with continuous brake is more than offset by the time saved in running, the increase in track capacity, and the much more rapid service given—all factors of the greatest importance in areas of dense traffic. This, today, is all the more important because of ever-increasing road competition, where our competitors run fast, large capacity lorries, and they have the added advantage of door-to-door delivery, and no double handling.

Another feature, and probably the most important of all, is the protection given to lives and property by the use of the

continuous brake on freight rolling stock. Cutting is common because of various factors, wet or greasy rail, bad management of train, or excessive loading, and so on.

Compare the effect of a train cut where there is no through braking system to one fully fitted. In the first case, the rear portion would run away completely out of control, causing possibly great damage. In the case of a cut on a fully-fitted train, the portions would come to a stand within (actual cases recorded), on the level, 80 metres (load 195 tons), and, on a down grade of 1 in 167, 130 metres (load 197 tons).

In Great Britain and other countries where the greater number of freight trains is not fitted with through brakes, heavy trains in many cases have to be stopped on the main line to have brakes pinned down and be double coupled, and in many cases, wheels scotched. This all takes time and is another factor which would offset the daily loss in the marshalling yard, destination, or intermediate shunting points.

SPLITTING UP TRAIN AT DESTINATION POINT

From statistics available a train of 32 wagons was dealt with in 96 min., made up as follows :—

- (i) To release the vacuum in brake cylinders 16 min.
- (ii) To uncouple brake pipes 4 "
- (iii) To uncouple coupling links 12 "

The remaining 64 min. were used in shunting. I estimate that the saving in time with a train of the same proportions, but with stock not fitted with through brake, would have been 20 min.

I would add that all coupling up and uncoupling is done by hand. Our shunters are expert in these operations, and fortunately accidents in this grade have been very low. They carry out the operations as quickly as could be done by the shunting pole.

From personal experience with all types of rolling stock on four railways, I have no hesitation in stating that the advantages afforded by the use of continuous brakes for freight trains far outweigh the disadvantages, and more especially where the density of traffic is great and the need for rapid freight trains is necessary. This need is becoming more imperative every day.

Yours faithfully,

A. LEISHMAN,
Assistant Traffic Superintendent

Timetable Revision

11, Kingsway,

Dunstable, Beds. September 20

TO THE EDITOR OF THE RAILWAY GAZETTE
SIR.—Recent articles and correspondence in *The Railway Gazette* prompt certain observations which are the result of detailed study of pre-war and subsequent train services over the whole of the late L.N.E.R. system.

A large proportion of the public, after enduring years of travel under emergency conditions, has come to look on a railway journey as an unpleasant experience, to be avoided at all costs. If our nationalised railways are to be profitable undertakings, this impression must be dispelled quickly, and, although the reintroduction of cheap excursion facilities is commendable and may attract additional revenue traffic, the foundation of success in the future must be the regular, all-the-year-round service provided.

Unpunctuality is a perpetual source of irritation to passengers, and exceptionally long trains are notoriously bad time-keepers. Shorter trains—say a maximum of 12 or 13 vehicles—adequately powered, would be able to achieve punctual running, and standardised departures would make rail travel a much simpler and more attractive proposition. The new facilities offered by the pre-war high-speed trains created additional traffic—it is to be hoped that track conditions will permit their reinstatement in the next year or two—and this fact supports the thesis that improved services generally would attract more passengers. That 70 per cent. of the East Coast Anglo-Scottish traffic is concentrated on the 10 a.m. group of departures from Kings Cross is surely the result of the long existence of this service, coupled with the inadequacy of other services.

Given good track and limited train loadings, it should be possible to revert to the express schedules ruling in 1939; it is on the basis of these running times that I have prepared over the past few years a scheme of regular-interval services for the whole of the former L.N.E.R. The basis of the suggestions is that trains for Newcastle and Scotland would leave Kings Cross at each hour, those at the even hours normally providing the Scottish services, usually with stops at Grantham, York, Newcastle, and Berwick; those at the odd hours would terminate at Newcastle (reached in 5 hr. 50 min.), calling at Peterborough, Grantham, Newark, Retford, Doncaster, Selby, York, Northallerton, Darlington, and Durham. The latter ser-

vices would carry a Leeds portion, detached at Doncaster, but the principal Leeds and Bradford services would leave Kings Cross at 15 min. past each even hour, calling at Peterborough, Doncaster, and Wakefield; certain of these would continue beyond Leeds to Harrogate and Newcastle, and all would convey to Doncaster two or three coaches for Hull. Provision has been made for through portions on these services to operate as independent trains according to traffic requirements.

As the East Coast main line to Scotland has been under review, a summary of the proposals for those services has been extracted from the full scheme.

	Proposed departures from Kings Cross for the North	Comparable 1939 service
1 a.m.	York (due 5.06 a.m.)	1.05 a.m. Edinburgh (sleeping car train)
2 a.m.	Aberdeen (due 12.55 p.m.) and Inverness (due 2.45 p.m.) via Perth (sleeping car train)	1.05 a.m. Edinburgh (sleeping car train)
4 a.m.	Newcastle (due 10.05 a.m.)	4.45 a.m. Edinburgh
5 a.m.	Glasgow (due 2.15 p.m.)	7.25 a.m. Edinburgh
7 a.m.	Newcastle (due 12.50 p.m.)	
8 a.m.	Aberdeen (due 6.25 p.m.) and Inverness (due 8.5 p.m.) via Perth (through carr. to Elgin and Lossiemouth)	
9 a.m.	Newcastle (due 2.50 p.m.)	
10 a.m.	"Flying Scotsman"—high speed train due Edinburgh 3.55 p.m., Aberdeen 6.40 p.m.	10 a.m. " Flying Scotsman," Edinburgh and Aberdeen 10.05 a.m. Glasgow, Perth, and Aberdeen 10.10 a.m. Newcastle
10.10 a.m.	Aberdeen (due 8.55 p.m.) and Inverness (due 10.35 p.m.) via Perth (through carr. to Glasgow)	
11 a.m.	Newcastle (due 4.50 p.m.)	11.20 a.m. " Queen of Scots," Pullman via Glasgow
11.20 a.m.	"Queen of Scots," Pullman due Glasgow 8.13 p.m. via Leeds and Harrogate	11.20 a.m. " Queen of Scots," Pullman Glasgow via Leeds
12 noon	Aberdeen (due 10.50 p.m.)	1.05 p.m. Newcastle
1 p.m.	Newcastle (due 6.52 p.m.)	1.20 p.m. Edinburgh
2 p.m.	Dundee (due 11.05 p.m.) (through carr. to Perth and to Glasgow)	
3 p.m.	Newcastle (due 8.50 p.m.)	
4 p.m.	"Coronation"—high speed train due Edinburgh 10 p.m., Glasgow 11 p.m.	4 p.m. "Coronation" high speed train to Edinburgh
5 p.m.	York (due 8.55 p.m.)	4 p.m. Newcastle
5.30 p.m.	"Silver Jubilee"—high speed train due Newcastle 9.30 p.m.	5.30 p.m. "Silver Jubilee" — high speed train to Newcastle
6 p.m.	Newcastle (due 11.05 p.m.)	5.45 p.m. Newcastle
7.05 p.m.	York (due 10.57 p.m.)	
8 p.m.	"Highlandman"—sleeping car train due Inverness 8.30 a.m. via Perth	7.25 p.m. "Highlandman" Inverness via Perth
9 p.m.	"Aberdonian"—sleeping car train due Aberdeen 7.55 a.m. (through carr. to Elgin and Lossiemouth)	7.40 p.m. "Aberdonian" Aberdeen with through carr. to Elgin and Lossiemouth
10 p.m.	Glasgow (due 7.30 a.m.)—sleeping car train	8.25 p.m. Edinburgh
11 p.m.	Glasgow (due 8 a.m.)—sleeping car train	10.25 p.m. "Night Scotsman" Glasgow, Perth, and Dundee
12 mdt.	"Night Scotsman"—sleeping car train due Aberdeen 10.50 a.m. and Inverness (via Perth) 12.5 p.m.	10.35 p.m. Edinburgh 10.45 p.m. Newcastle

Other principal departures from Kings Cross are proposed at 40 min. past each even hour for Newcastle, via Stockton and Sunderland, conveying through carriages for Scarborough, via Bridlington, detached at Selby, for Scarborough, via York, and for Middlesbrough, detached at Eaglescliffe Junction, with intermediate stops at Peterborough, Grantham, Doncaster, and Selby to York, then at chief stations; and at 45 min. past each odd hour for Sheffield and Hull, calling at Hitchin, Peterborough, Grantham, and Newark to divide at Retford, the Hull portion calling at Bawtry, and Rossington before leaving the main line at Doncaster. Provision is also made for fast or semi-fast services, all at standard timings, to Cambridge, Grimsby, Skegness, Stamford, Kings Lynn and Lincoln. All stopping services north of Hitchin would be provided by diesel railcars, and such units, which can be of one, two, three, or four vehicles, according to traffic volume, are proposed for almost all local services throughout the whole scheme, as well as for a number of express cross-country services, thus enabling faster and more frequent travel than is economically possible with steam trains.

The plan envisaged is a long-term one, based on 1939 working times, and would have therefore to be built up gradually, with certain series of trains omitted until conditions were suitable. This is an important factor, for the attempt to construct a timetable giving fast, frequent express services, with good semi-fast and slow trains, has forced the conclusion that it is impossible to operate all these, alongside goods traffic, on a main line provided with fewer than four tracks.

Thus, the eventual efficient operation of British Railways and the provision of adequate services of all types depend on an extensive programme of development, to provide all principal main lines with down relief, down fast, up fast, and up relief roads, arranged preferably in that order to facilitate transfer from fast to relief, and vice-versa; replace many level

junctions by flyovers, or burrowing junctions; and improve track layout and station capacity at a number of large provincial stations. Such works would be of considerable magnitude, but the exigencies of war have necessitated many improvements since 1939. They would be difficult, but are not impossible. They must be effected if full advantage is to be taken of the present opportunity for bold planning and unified progress, and if our whole railway network is to be provided with "Shorter Trains and More of Them!"

Yours faithfully,

J. MUIRHEAD JOHNSTON

[This is an interesting scheme, and would give, of course, an excellent train service from Kings Cross, but the proposals are on very different lines from the "Shorter Trains and More of Them" scheme, as described in the July 16 and August 27 issues of *The Railway Gazette*. The suggested service is complicated by much detaching and attaching of through portions (at Doncaster, for instance) and, far from the standardisation of express speeds, by which it was hoped that some of the objections to increasing the number of expresses might be overcome, speeds would appear to vary greatly and are certainly very ambitious. For example, "The Flying Scotsman" has to reach Edinburgh in 5 min. less time than the very tight pre-war schedule of the "Coronation," and its Aberdeen portion apparently must cover the difficult 130½ miles from Waverley in little over 2½ hr.; other services are shown to arrive at Aberdeen in times between 10 hr. 25 min. and 10 hr. 55 min. from London, and for Inverness to be reached (by a train leaving London at 8 a.m.) in 12 hr. 5 min. would be a costly undertaking, with new mileage through sparsely populated areas. This and other letters we have received, including those published in our August 13, September 3, and September 17 issues, are, however, evidence of the desire for a real overhaul of train services and the adoption of new ideas in timetable compilation. We certainly agree with the opinion expressed as to the concentration of traffic at 10 a.m. from Kings Cross, but we question whether such a service as is proposed could achieve the punctuality which is so desirable.—ED., R.G.]

Shorter Trains and More of Them

32, Middleton Road, North Reddish,
Stockport, Ches. October 1

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Although most of your readers will support your claim in articles in your July 16, August 27, and October 1 issues for services of more frequent and shorter trains over the main lines of British Railways so far as this can be achieved without serious reaction on freight train services, it has become apparent already that a considerable number are not in agreement with your third requirement, that such trains shall travel at a monotonous 50 m.p.h. or slightly less, irrespective of distance and

apparently without prospect of acceleration at a later date. Railwaymen may be notoriously conservative, but, far from subscribing to any such proposal, we do not even admit that the schedules obtaining immediately before the war represent the maximum development of which our particular mode of transport is capable in that direction! There must be progress in all industries, and, as speed of movement is one of the principal considerations arising out of the very essence of transportation, there must be a trend amongst others, if railways are to survive, towards faster trains. Who knows—one day even our freight trains may run a little faster?

High-speed trains engender smart, as opposed to slovenly, work, and smart work has an infectious quality which is as virulent as that found in slovenly work. It is all a matter of pride, and, although pride can be developed by running trains of smart clean stock at moderate speeds or trains that carry nameboards with a history, it is the achievement of successfully working one of the hardest turns that will provide the best stimulus. Its favourable reaction will affect the working throughout the links and on all classes of trains, resulting in improved punctuality. Punctuality is an important economy, for it saves coal as well as overtime.

High speed also can effect economies in other directions. To give a single example, a 3-hr. schedule between Manchester and Euston—a perfectly practical proposition with the shorter trains you advocate once track maintenance is back to normal—would render possible a round trip for the same train crew and stock. Obviously, higher speeds increase the availability of both locomotives, coaching stock, and men. With light trains and modern engines, start to stop speeds of 60 m.p.h. and over would not involve coal consumption greatly in excess of that at the 50 m.p.h. level you contemplate, and this would be compensated for by the high degree of punctuality attained by eager and enthusiastic crews.

By grouping the departures of the faster trains more closely than proposed in your East Coast main-line diagram, and omitting the services plotted at certain of the less popular hours, it should still be possible, without departing from the principle of regularised departure times for each destination, to retain track capacity at a sufficiently high level to enable the freight train services to be accommodated. Indeed, I fancy it is a failing of your scheme that it makes insufficient allowance between paths to allow that elasticity needed to enable freight trains, running out of course, to be got through the various junctions and bottlenecks of the East Coast route. If this is so, some of the fixed interval passenger services would have in any event to be dispensed with.

What would suit the public interest best, I think, would be shorter, faster, and cheaper trains, more of them, and a regularised system of departures whereby trains for the same destination start at the same number of minutes past the hour.

Yours faithfully,
ADAM OF USK

Publications Received

L'Année Ferroviaire, 1948 (Railway Year Book, 1948). Paris, 6e: Librairie Plon, 8, Rue Garancière. 9 in. x 5½ in. 277 pages. Illustrated. No price stated.—This is the second issue of a publication which made its appearance last year, and was reviewed in our issue of October 3, 1947. As before, the annual aims at providing not only technical and statistical information relating to French Railways, but also covers social, economic, and general aspects of transport. In this issue, a member of the French Academy, M. Jules Romains, contributes an essay on railways from the standpoint of an enthusiast, while an article on the relation between transport technique and social progress appears from the pen of M. Raoul Dautry. Technical articles this year deal, among other subjects, with the efficient utilisation and allocation of duties among locomotive crews, and the circulation of goods traffic, with notes on goods station layout and working. In the tabular section at the end of the book, there are numerous outline drawings of French locomotives and rolling stock, together with brief dimensional particulars. A publication of this kind serves a useful purpose in

providing the public with a background of railway knowledge on which can be based a just appreciation of the achievements and difficulties of a national transport undertaking.

Deterioration of Structures of Timber, Metal and Concrete exposed to the Action of Sea-Water; the 19th report of the special committee nominated by the Institution of Civil Engineers dealing with timber structures so exposed. 49 pp. 9½ in. x 6 in. Illustrated, in paper covers. Published by the Institution, 1947. Copies obtainable from William Clowes & Sons Ltd., Little New Street, London, E.C.4. Price 5s., post free.—This report is a general summary of the experimental work carried out from 1916 to 1947 on timber, mainly throughout the British Commonwealth. The first report of the committee, published in 1920, showed that timber in home sea-waters is attacked by the marine animals teredo, limnoria and chelura, principally south of the Mersey and Humber where the water is warmer. In fact, the warmer the sea-water the greater liability to attack. Oak, elm and softwoods are not resistant to it, as are greenheart, kauri, jarrah and other hardwoods.

Other reports have followed, based upon

experiments made by corresponding members, and results are given and illustrated by photographs and diagrams. Briefly, ordinary creosote is shown to be the best known preservative of marine timbers, but its penetration to at least ¼ in. into the wood is all-important, if necessary by incising and long-period pressure treatment. Round piling, with its sapwood, readily absorbs creosote, a uniform penetration of 1 in. to 3 in. easily being obtainable with Scots pine and Baltic redwood round piles. Square piles do not receive a corresponding protection due to their being mainly heartwood. Cutting and boring after treatment should be avoided.

General conclusions are that, though no species of timber in its natural condition is absolutely immune from attack by marine borers, greenheart, pyinkado, turpentine, totara and jarrah are practically immune. In addition to coal-tar creosote, Celcure may be considered as equally the most satisfactory preservative. Deep penetration is essential, and, with such timbers as Douglas fir, incision is necessary. In home waters, any species of timber efficiently impregnated with creosote is practically immune to marine borer attack, and in tropical waters it is highly resistant to attack and will have a life of many years.

The Scrap Heap

COST OF REDUCED POSTAL RATES

The Assistant Postmaster General stated on September 21 that the annual cost of reducing the postage rate on inland letters from 2½d. to 1½d. was estimated at £15,800,000 and a reduction in the post-card rate from 2d. to 1d. at £1,200,000.

* * *

FERRET CAUSES LABOUR TROUBLE

The New Zealand Electrical Workers' Union is suing an Auckland firm for using non-union labour—one ferret. The union say the firm induced the ferret to pull 600 ft. of electric wiring through a pipe by putting a dead rabbit at the other end.

And this, they contended, did electricians out of several weeks' work.—*From the "Evening Standard."*

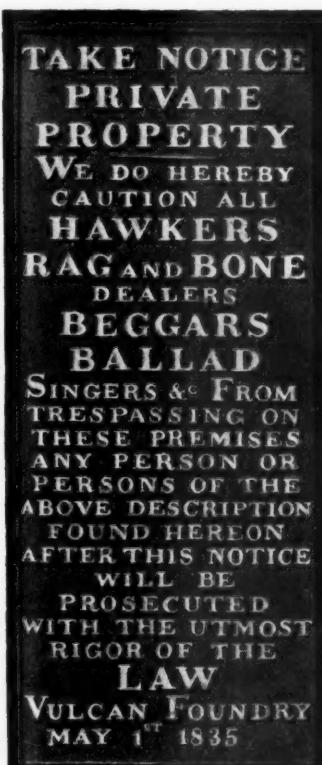
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INFORMATIVE

Seven hundred thousand inquiries were answered by the Western Region's passenger inquiry staff at Paddington Station during the summer holiday season. Four hundred thousand of these were received by telephone and forty thousand by letter at the central inquiry bureau, and the remainder were made personally at the platform inquiry office. They included questions about train and steamer services, omnibus and air connections, fares, hotels, holiday camps, early closing and market days, racing fixtures, regattas, flower shows and golf courses.

* * *

Rogues and Vagabonds Beware !



A quaintly-worded trespass notice of 1835, still to be seen at the Vulcan Foundry, Newton-le-Willows

CHANGES IN COSTS

In a statement announcing the inauguration of the two new "Twentieth Century Limited" trains, which went into service on September 17, the New York Central pointed out that the locomotive and five coaches of the original "Twentieth Century Limited," which began running in 1902, cost in all \$115,000, or the approximate cost of only one of the sleeping cars of the new trains, which normally comprise sixteen streamline coaches.

100 YEARS AGO

From THE RAILWAY TIMES, Oct. 14, 1848

OPENING OF THE SHREWSBURY AND CHESTER RAILWAY

This line of railway which is 41 miles in extent, was opened throughout on Thursday. The present line is an amalgamation of the North Wales Mineral and the Shrewsbury, Oswestry, and Chester Junction Railways. Fifteen miles of the line—namely, from Chester to Ruabon, have been opened for nearly two years, and the receipts during that time have been about 40/- per mile per week. The cost of the entire line has been about 17,000/- per mile, and the working stock will be about 4,000/- per mile more. The traffic on the line is chiefly mineral.

In honour of the opening the occasion was observed as a general holiday along the line, and several trains ran both ways, conveying the inhabitants gratis.

A special train started at twelve o'clock from Chester, conveying Mr. Ormsby Gore, M.P., the Chairman of the Company, the Directors, and their friends, along the line. This train also conveyed the corporation of Chester to Shrewsbury, and the civic bodies of the two towns met for the first time for at least a century past.

At Shrewsbury a banquet was prepared at the Music Hall, by the corporation, for the entertainment of the Directors, and the proceedings of the day were to be closed by a grand ball and fireworks.

The train which took the Directors' party to Shrewsbury consisted of fifty-nine carriages, drawn by three powerful engines.

DRIVE AGAINST CRIME

Last year British Railways lost £2,600,000 worth of goods by theft. This year the figure is up; it may reach the £3,000,000 mark.

So General Sir William Slim is pushing forward with the mechanisation of British Railways police force, a body of 3,600 men and women, with its own training college in Surrey and its own C.I.D.

Radio-equipped cars are on order, and many more cars and motor-cycles are already in commission. Slim's idea is not to increase the existing force much—but to make it mobile and better trained for the drive against increasing crime.

In Hull docks the B.R. police have 16 Alsatians trained to tackle men. But this is a pre-Slim idea; dogs have been used there on patrol for many years.—"Ian Coster" in the "Daily Mail."

RAILWAY MEALS

The large number of autobiographical references to railway meals in the press—mostly unhappy in their approach—recalls to a colleague a pleasant afternoon he spent on the West Highland railway—before it became British, it is true.

He planned to spend a Saturday afternoon by taking the down train from Craigendoran to Arrochar, having a walk there, and catching the up train back. It turned out that it was raining heavily, and the down train was very late and also very full.

Opposite to him on the platform, however, was a buffet car. He got into this and, with no deliberate intention on his part, found himself sitting down to an excellent high-tea. He finished his bacon

and eggs, when, to his surprise, another portion was brought.

When the train reached Arrochar, the Glasgow train was already in the station. The well-satisfied passenger dashed through the rain, and found himself sitting in the dining car. He told the waiter that he had just had a first-class meal, but the waiter assured him that the food in dining cars was better than that in buffet cars, and insisted on bringing him another high-tea, which was every bit as good. When the traveller got back home he reported that he had enjoyed his walk very much indeed.—*From "The Scotsman."*

OXFORD TO WREXHAM ON PLATFORM TICKET

An ingenious method of avoiding payment on the railway was described by the prosecuting solicitor during a case at Wrexham Borough Magistrates' Court recently, when a soldier pleaded guilty to a charge of travelling on the railway without paying his fare.

He said the soldier was stationed with the Royal Pioneer Corps at Bicester and lived at Wrexham. On June 12 he decided to go home to see his parents, but had no money. He borrowed 2d. and got to Oxford by means of "lifts." There he bought a platform ticket with a penny, went on to the station, boarded a train and eventually arrived in Wrexham.

There he gave the remaining penny to a schoolboy who was on the platform and asked him to go out and get him a platform ticket. The ticket collector had previously seen the boy going on the platform with an ordinary train ticket and thought it strange that he should return and ask for a platform ticket. The collector then interviewed defendant who admitted he had travelled from Oxford without a ticket.

Captain D. B. Edwards, R.W.F., said that at the time defendant had not quite settled down in the Army and had a tendency to become easily worried.

The Bench dismissed the case under the Probation of Offenders' Act, the Mayor, Councillor Mrs. Jarvis Jones, stating that there were extenuating circumstances. Addressing the defendant, she added, "We hope you will make yourself as happy as you can in the Army. If you feel worried go to the officer and tell him all about it."

THE OLD ENEMY

(*Fog has made its re-appearance*)

Season ticket holders boast

"Brilliant sunshine on the coast,"
But the city lies in thrall,
Draped in fog's funereal pall.

Out there, on the great main roads,
Lorries languish, with their loads;
Buses long have ceased to roam—
Private cars have stayed at home.

But the trains go on, like fate,
And you grumble if they're late.
Thank the fogmen, thank the crew
That your train came safely through.

Heroes of the six-foot way,
They must labour, night and day,
Fighting transport's deadliest foe
In the brazier's ghostly glow.

Though their trials you cannot share,
You can join them in their prayer:
"Grant us, Lord, the strength to find
Breath to whistle for a wind."

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Rolling Stock Orders

The Minister of Transport has stated that the number of wagons on order from overseas sources is 7,850. Local industry is executing orders for 2,110 bogie wagons and the Administration's workshops are building 4,822 bogie wagons, 1,736 four-wheel wagons and 16 narrow gauge wagons.

Orders have been placed overseas for 245 main-line coaches and approval has been given for the importation of a further six coaches, three guard's vans, and 18 dining cars. Those to be manufactured in the Union comprise 610 main-line passenger coaches and 112 guards vans.

Suburban steam passenger coaches to be imported number 132, and approval has been given for the manufacture of 187 of them in the Union. Suburban electric motor coaches ordered from overseas total 45, and approval has been given for the importation of 190 more. Forty-nine suburban electric trailers are being manufactured in S.A.R. workshops, and approval has been given for the importation of a further 162 from overseas.

Steam locomotives on order from overseas number 127 standard gauge, and 12 narrow gauge. Eight shunting engines are being manufactured in the Administration's workshops. Approval has been given for the importation of a further 125 steam locomotives. Five electric locomotives ordered from overseas have still to be delivered, and the importation of another 54 has received approval.

Purchase of Ships

The Minister also stated that a total sum of £1,369,800 had been provided in the estimates for the purchase of ocean-going vessels, but inquiries had not revealed any possibility of ships being built, nor of suitable ready-built ships being bought at an economic figure. The matter is to be reviewed after receipt of the report of the committee appointed to classify in order of priority the proposals included in the estimates of expenditure on capital and betterment works.

INDIA

Locomotive Shortage

Indian railways are faced with a serious shortage of locomotives, and unless 863 locomotives from the United Kingdom, United States, Canada, and France are imported by the end of 1950, there will be an overall shortage of more than 200. At the beginning of this year, 680 locomotives had become over-age and would have been scrapped in normal circumstances. By 1950, another 470 locomotives will pass the 40 year age limit.

The railways are trying to meet the situation by more intensive use of available locomotives, but this remedy is limited by an overall deficiency of shopping arrangements. Partition has left the Eastern Punjab Railway, which has 500 locomotives, without a workshop, and the Assam Railway, which has more than 200 engines, with shopping capacity for about 50 only. The position has been aggravated by the fact that during the last few years replacements have not been made, spares have not been readily available, and labour has been restive. Recent investigations of efficiency experts in regard to machine and labour utilisation reveal that

efficiency of railway workers has decreased 50 per cent.

There has been intensive study of the question of importing locomotives in larger numbers as an alternative to manufacturing them in the country. Home manufacture is desirable politically and strategically, and the rising cost of imported locomotives, which at £31,000 is three times the price in 1939, makes the setting up of a locomotive factory in India an economical proposition in the long run. The erection of a factory, to cost Rs. 14 crores, has therefore begun at Mihijam, near Asansol, in western Bengal. The work is expected to be completed by early next year, but the first Indian-built locomotive may not be completed until the end of 1950. This factory, and the Tata Locomotive Works, are expected to make India self-sufficient in regard to steam locomotives. To make up India's shortage of technicians, a batch of 20 Indians is to be sent out in March, 1949, for six months' intensive training in a large locomotive works abroad.

PAKISTAN

Emergency Tickets Issued

The North Western Railway has introduced, as an emergency measure, half-size intermediate and third class tickets for adult passengers. One full card ticket is therefore for the use of two passengers. Separate half-size "child" series tickets also have been introduced. These steps have been necessitated by the acute shortage of yellow and pink card boards used for third and intermediate class tickets respectively. The new series of inter class tickets is to be printed on yellow card boards with two red vertical lines on each half, and the words "Inter Class" in red printed on reverse.

CANADA

New Railway for Iron Ore Transport

The Quebec, North Shore & Labrador Railroad Company, incorporated in 1947, is carrying out preliminary work on a line from Sept Iles, on the north shore of the St. Lawrence River, about 300 miles north-east of Montreal, to Knob Lake, a rich iron ore region, 360 miles inland. It is expected that ten million tons of ore will be moved in a nine-month period. The estimated cost of the line is \$100,000 a mile and three years will be occupied in construction.

GERMANY

The Reichsbahn in 1947

German motive power and rolling stock as at December 31, 1947, comprised 19,700 steam and electric locomotives and electric railcars, 42,100 carriages, and 460,000 goods wagons. This compares with 22,400 steam and electric locomotives and electric railcars, 64,500 carriages, and 575,000 goods wagons at the end of 1937. Traffic figures for 1947 so far have been obtained only from the British-American bizon, and are as follows (figures for 1936 appear in parentheses): passengers conveyed (million), 1,480 (644); goods conveyed (million tons), 133½ (245); mileage in vehicle-mile-km. (thousand million), passenger 3·3 (5·1), goods 6·7 (10·7); average number of wagons available for loading daily, 29,700 (58,000).

Passenger travel therefore more than doubled compared with pre-war, but goods contracted by some 40 per cent.

It is believed that the economic revival expected from the Marshall aid to Germany will be possible only if the transport capacity of the Reichsbahn is adequately developed at the same time. It is pointed out that an economic life along normal lines will not be possible so long as goods ready for despatch have to wait weeks and even months before loading space is found for them, or if the acceptance of parcel consignments is periodically suspended by the railways. In the case of coal transport, this accounts at present for about 55 per cent. of the total goods traffic in the bizon alone. Despite this important share, the transport of coal has proved insufficient in the bizon, which has resulted in periodic stoppages of work at various metallurgical works.

U.S.S.R.

Progress of the Railway Five-Year Plan

According to the Soviet Minister of Communications, the transport potential of the railways in the Soviet Union continues to increase. In the first half of the current year, goods traffic was 21 per cent. above the level reached in the corresponding period of 1947. The target set for goods traffic for the six months ended June 30, 1948, had been exceeded by 101 per cent.

The Minister said that the plan for the current year was a reduction in the cost of transport of 6·6 per cent. in respect of the cost incurred in 1947, and that in the first half of the current year a contraction in the cost amounting to 8·4 per cent., compared with the cost recorded for the same months of 1947, had been achieved. Various railway regions, such as the Central Asiatic and the Stalin and the Gorki railway zones, had been able to dispense wholly with government subsidies.

Speeding-up the Plan

The speeding-up of the plan aims at reducing the period and all-out efforts now are being made to attain 1950 targets by the end of 1949. For the most important economic regions (the Urals, Siberia, and the Don area) the completion is envisaged before the end of 1949 of 106 route-miles of new lines, of second tracks totalling more than 1,000 miles, the installation of the automatic block over 404 route miles, and the electrification of about 155 route miles, in addition to the building of 550 bridges, and houses for railwaymen and families. One of the inexhaustible sources of assistance to the railways was the country's industry, which, during the first two years of the Five-Year Plan, had supplied the railways with many locomotives, tens of thousands of goods wagons, more than a million metric tons of steel rails, a considerable number of steel bridges, tens of millions of sleepers, and great quantities of other railway material. Despite all this, which was designed to increase the railways' transport potential the railways were still far behind in the attainment of the planned turn-round of goods wagons. The pre-war level had been reached by some railway regions including Kirov, South Western, Northern, Odessa, Yaroslavl, October, and Karaganda.

The efforts to which the 3,000,000 railwaymen in the Soviet Union have pledged themselves for the current year with the view of enhancing the railway potential are to culminate in the loading of some 600,000 wagons above the target figure.

Freight Train Bonus Schemes*

Organisation and development since 1930

By F. J. Ridsdale,

Superintendent's Office, York, North Eastern Region, British Railways

In 1930, a considerable time before the Government gave its blessing to "special incentives," bonus schemes for freight trains were introduced on the North Eastern Area of the then L.N.E.R.

The principle of train bonus schemes is the same as that for other piece-work systems, that is, the establishment of a standard time for the performance of a given job, with special payments for improving on that standard. So far as train schemes are concerned the factors involved are so varied that a separate scheme has had to be built up for each train, though the basis of payment for saving in time is common to all schemes.

The general practice in compiling a scheme is to extract from the guards' journals details of the daily working for twelve consecutive months. These details are averaged, and, to allow for such factors as bad weather, short days, and so forth, the averages are worked out separately for the periods April to September, and October to March inclusive. The daily averages are regarded as the winter and summer journey time datum line, and these, together with the trainmen's allowances for signing on, walking, attaching train, etc., constitute the daily datum line for the train concerned. From this is established a weekly datum line; a week's work is the basis of calculation of any bonus saving.

The datum line being established, a scale of payments is applied for performing the work in less than the datum line time. This scale, based on the value of the saving in relation to the cost of working is, for all individual train schemes, a payment to each of the three trainmen of 1s. 6d. for a first saving of three hours on the datum line, with a further payment of 1s. 6d. per man for each further saving

of $\frac{1}{2}$ hours. The scale for group schemes varies somewhat, being based on a payment of 1s. instead of 1s. 6d., but making certain allowances for varying datum lines. To quote a simple example of an individual train scheme: if the weekly datum line is 48 hours, and the trainmen perform the work in 42 hours, they are credited with 6 hours bonus saving, calculated on the scale at 1s. 6d. each for the first 3 hours, and 3s. each for the further 3 hours (1s. 6d. for each $\frac{1}{2}$ hours after the first 3), making the total bonus payments 4s. 6d. for each man.

Trainmen working bonus turns are guaranteed the minimum weekly wage, and, in addition to the above bonus payment, are paid a further bonus to compensate for any loss of overtime which would accrue in cases where, under bonus conditions, work is performed in less than the standard weekly hours, which, under non-bonus conditions would have exceeded the normal hours, and would thus have had to be paid for at overtime rates. Trainmen are allowed to go home on the completion of their bonus task, which may in some cases be up to two or three hours less than the normal eight-hour day.

Development of bonus working proceeded so rapidly that by 1935 there were over 100 individual train schemes, and eight group schemes in operation. Expansion and development continued, and there are now in operation approximately 150 individual train schemes, and 26 group schemes. Various refinements of the early straightforward "journey time" schemes from time to time have been introduced, such as the "wagon variation" and "differential" methods. In the former, time allowances are varied on the basis of the number of wagons handled by the train, whilst in the case of the "differential" schemes, the datum line is stripped to the bare bones of "running" time, and allowances are added for each stop

* Extract from an article in the September issue, *British Railways Magazine (Eastern, North Eastern & Scottish Regions)*

ESTABLISHMENT OF A.E.I. (PAKISTAN) LIMITED.—Associated Electrical Industries Limited, hitherto represented in Pakistan by A.E.I. (India) Limited at Karachi and Lahore, is about to be represented by a separate company, A.E.I. (Pakistan) Limited, which will take over from A.E.I. (India) in Pakistan, with offices in Karachi at Bombay Company Building, Wallace Road. Mr. K. I. Brown will be Director & General Manager.

MINISTER OF SUPPLY VISITS THORNCROFT WORKS.—Mr. G. R. Strauss, Minister of Supply, with the District Regional Controller, visited the Works of Transport Equipment (Thornycroft) Limited on September 29, to make himself familiar with conditions and difficulties experienced by the company, particularly concerning export. The Minister, after a tour of the works, met the works joint production committee, and later said that he was very pleased to learn that Transport Equipment (Thornycroft) Limited was one of the few works he had visited, which had a production committee in being since 1943, that is, before the works joint production committee became recognised in

1944, when the Government decreed that all works had to form such a committee. The Minister said he was very pleased to learn of the excellent relations between management and employees.

FILM SHOW TO INAUGURATE MUTUAL IMPROVEMENT CLASS SESSION.—Nearly 500 persons attended a display of instructional films which was given on October 10 to mark the opening of the 1948-49 session of the Kings Lynn Locomotive Mutual Improvement Class. The function was arranged by Mr. E. J. Shaw, Locomotive Shedmaster, Kings Lynn, Eastern Region, British Railways (President of the Mutual Improvement Class), and the Pilot Theatre there was lent for the occasion by Captain L. Beesley. The large audience included railway officers and staff from Cambridge, Ely, March, and elsewhere, as well as representatives of educational authorities. Officers of the Eastern Region who were present included Mr. G. Sutcliffe, District Superintendent, Cambridge; Mr. A. H. Rees, District Locomotive Superintendent, Cambridge; and Mr. M. D. Thompson, District Goods & Passenger Manager, Cambridge.

or trip or other work performed. The growth of group schemes brought the introduction of the "built-up" datum line, under which allowances are laid down for each run or terminal, and the total allowances for each job performed by the trainmen constitute the daily datum line.

The main objects of train bonus schemes are: reduction in the number of engines and engine hours, quicker clearance of running lines, improvement in transit time of goods, and quicker turn-round of wagons.

The natural tendency of bonus trainmen to increase the speed of running of their trains has had a good effect on freight train schemes generally, as any increase in speed of one class of train tends to become cumulative because of the finer margins which can be operated. Not only do the bonus trains benefit, but delays are avoided by other trains using the same lines.

Dangers inherent in bonus working are that it may speed movement to a point where carelessness creeps in. There is the risk also that bonus working will increase rough shunting with consequent damage to wagons and contents. Experience over a number of years does not indicate that there has been any marked deterioration in the standards of workmanship where the bonus system has been introduced.

On the commercial side it is sometimes charged against bonus working that trainmen will not wait at stations for wagons to be loaded or unloaded, and that relations with the trading public suffer thereby. The obvious advantages of quicker movement of the bulk of the traffic, however, must heavily outweigh any loss to the odd wagons that are sometimes left over.

It is considered that train bonus schemes have amply justified themselves from an operating point of view, and particularly so during the war when locomotive power was at a premium, as they have shown maximum results under conditions where, as in the case of group schemes, saving in engine time can be fully utilised by double-shifting and similar methods of intensive application of locomotive power.

BRITISH STANDARD FOR STEEL PLATE, SHEET AND STRIP.—The British Standards Institution has recently published B.S. 1449, for steel plate (not exceeding $\frac{1}{2}$ in.), sheet and strip for automobile and general engineering purposes. This standard, it is stated, is an extension of, and should be regarded as a companion to, B.S. 970. Copies of B.S. 1449 may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s. 6d. post free.

INSTITUTE OF TRANSPORT.—The inaugural meeting of the 1948-49 session of the Institute of Transport will be held on Monday, October 18, at 5.30 for 6 p.m. at the Jarvis Hall, Royal Institute of British Architects, 66, Portland Place, London, W.1, when the retiring President, Mr. T. W. Royle, will present the awards for 1947-48, and the new President, Mr. David R. Lamb, will deliver his presidential address on "Transport in Transition." The anniversary luncheon of the Institute will take place at 12.45 for 1.15 p.m. on Tuesday, November 2, at the Connaught Rooms, Great Queen Street, London, W.C.2.

Williamson Locomotive Service Station

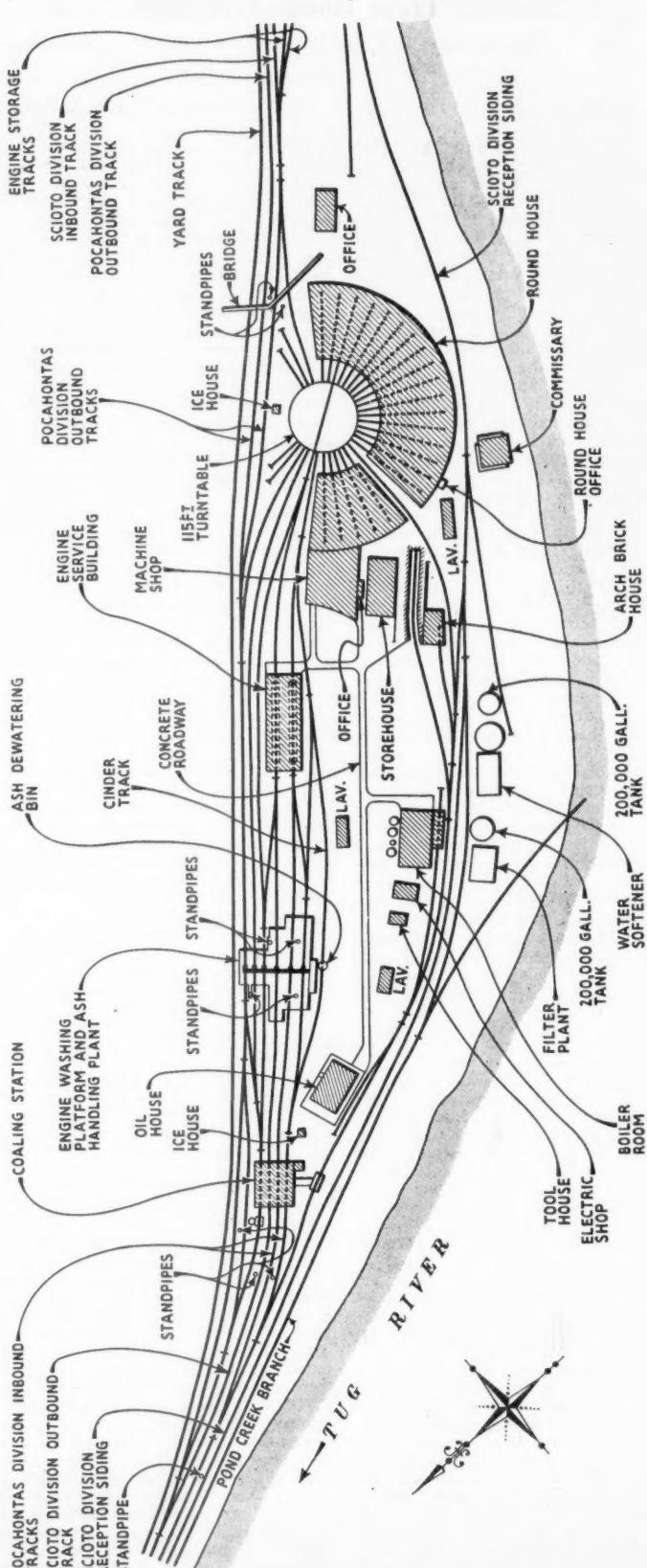
A SAVING in engine-terminal time, estimated at 38 locomotive days a month, or 456 a year, has resulted from the complete revision of layout and facilities at Williamson engine depot, Norfolk & Western Railway, according to our American contemporary *Railway Age*. Further to the article on developments at Williamson, which appeared in our February 27 issue, we reproduce a plan of the improved running shed, showing the arrangement of servicing facilities, which obviates the need for reverse movements when locomotives are being prepared for further duty.

Since the new facilities were installed, it has been possible for a locomotive to be inspected, lubricated, washed, take on coal, water and sand, and have its fire cleaned, within an hour. Among the outstanding features of the new depot are a two-track engine-service building for lubrication, inspection, minor adjustments and light repairs and a three-track engine-washing platform, which is combined with ash-handling plant and water columns, to enable locomotives to be washed, take water and have their fire cleaned simultaneously.

Williamson, West Virginia, is the division point between the Pocahontas and Scioto divisions of the Norfolk & Western Railway and is a concentration centre for coal traffic moving in both directions. After reference to the accompanying plan, it will be seen that an eastbound train from the Scioto Division runs over the Scioto reception siding to a yard east of the running shed, where the locomotive is detached. Then proceeding in reverse, the locomotive runs over the Scioto Division inbound track to the turntable, where it is turned, and does not enter the engine-house unless heavy repair is required. The locomotive then uses the Scioto Division outbound track to pass through the respective servicing installations, after which it proceeds to the west yard to take charge of a westbound train. A similar process is followed by locomotives arriving with trains from the Pocahontas Division, though in this case they proceed to the west yard and then run eastwards through the installations.

There are two service tracks running through the 60-ft. by 165-ft. engine-service building, which has interior walls of glazed brick and large glass-block windows. Lighting is by fluorescent tubes in two continuous rows on either side of each track, at approximately 6 and 15 ft. above the floor. Sixteen lubrication points, each consisting of several conveniently-arranged hose-and-fitting assemblies, connected to overhead pipe lines, supply lubricants under pressure to locomotive fittings.

The hydraulic ash-handling plant installed at Williamson, was chosen for its suitability for use in combination with the engine-washing platform and its comparative simplicity, and because it reduces dust from ash-handling to a minimum. Ash is dumped into concrete hoppers between the rails, and water flowing at high pressure washes the ashes into a sluice trench, which drains into a sump. From the sump, a dredge-type pump lifts the ashes and water to an overhead storage and de-watering bin, when surplus water is drained off to a reservoir; at a convenient date, ash is dumped into wagons for disposal.



The revised layout and arrangement of facilities at Williamson engine depot, Norfolk & Western Railway.

New Tunnel at Thurgoland, Eastern Region

*Completion of important preliminary work
for Manchester—Sheffield electrification*



The west portal of the new tunnel, showing the inscriptions on the parapet and keystone

WHEN the electrification of the main line from Manchester to Sheffield and Wath was considered, it was realised that the headroom in the 14-ch. tunnel at Thurgoland, between Wortley and Penistone, was insufficient to accommodate overhead equipment for two-way traffic, unless the level of the tracks was lowered considerably. This arrangement would have perpetuated difficulties that had arisen previously from the restricted lateral clearance in the tunnel, and introduced additional problems in electrical clearances. A scheme for opening out the tunnel, first considered in 1924, was re-examined in detail, but was rejected, on the grounds of expense, after trial borings had been made. It was then decided to construct a single-line tunnel for the down line, and to realign the up track in the centre of the old tunnel.

The construction of the new tunnel was authorised by the L.N.E.R. board in 1946, at an estimated cost of £127,400. The survey, levelling, and other preliminary works were undertaken by the staff of the railway company, but the large number of other new works in hand, and the impossibility

of obtaining additional experienced engineering assistants, made it necessary to engage the services of Sir William Halcrow & Partners to prepare the working drawings, and to supervise the work at the site.

The contract for the construction of the tunnel, and other ancillary works, was let to John Cochrane & Sons in October, 1946, and work was started in November, but progress was retarded by the prevailing abnormal conditions. The maximum number of men employed was about 150, and a camp was established near the eastern end of the tunnel. A supply of electric current was made available for power plant.

Details of Construction

The tunnel is built on a curve of 40 ch. radius, and is driven through a hard sandstone, known locally as Grenoside stone. This rock, which is compact, but broken by many joints and fissures, is overlaid with hard clay and shale to a maximum height of 80 ft. above rail level, and thin layers of shale extend downwards into the sandstone.

The contract plans provided for the tunnel to be lined throughout with 18 in.

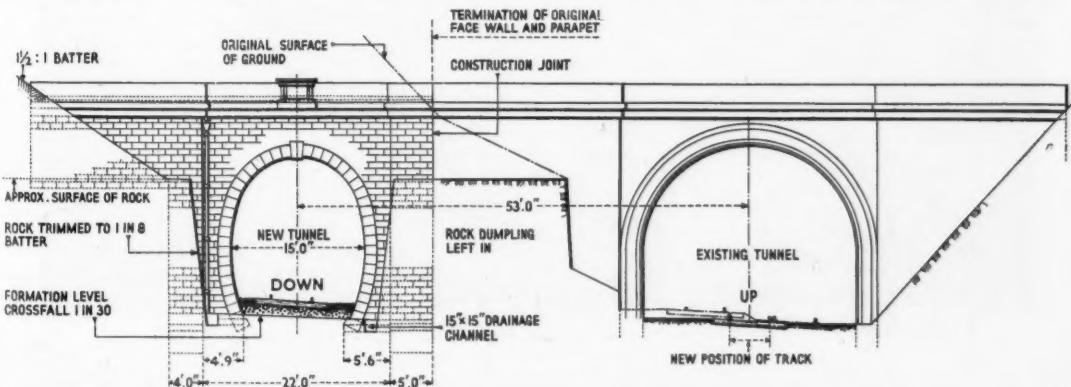
(average) of Portland cement concrete, but for a length of some 20 yd., near the western (Penistone) end, the rock was of such poor quality that timber supports had to be provided. To facilitate the removal of this timbering, it was decided to substitute a lining of blue brick for concrete in the arch. This arrangement did not prove economical, and ribs of old rails and steel planking were used in parts of the tunnel, when unstable rock was encountered.

The tunnel was driven from each portal, and, at first, the full section was removed in one operation. It was found that progress was very slow, and the remaining portion was undertaken by removing the top third in the first instance. The work was complicated by the necessity of avoiding any interruption in the train services on the adjoining running lines. To ensure complete safety, small splitting charges, containing only about 6 oz. of explosive, were used to dislodge the rock, and no blasting was permitted when trains were in the vicinity. Approximately 1 lb. of explosive was required to remove 1 cu. yd. of rock. The two headings met on January 9, 1948.

Extension of Tunnel

During the excavation of the approach to the western portal, a slip occurred on the rock face, which exposed a vein of clay and shale. As the direction of this vein was indefinite, it was decided to construct a retaining wall for 20 yd. across the width of the slip, and to extend the tunnel up to the retaining wall. This alteration increased the length of the tunnel by 55 ft. The extension was made to the same profile as the driven tunnel, but took the form of a covered way. The concrete lining was reinforced by bent ribs of old rails, at 2 ft. 6 in. centres, and hand-set rubble packing was used behind the lining, and earth cover above.

The contour of the tunnel was produced by specially-designed travelling steel forms, 21 ft. long, formed of light angles and channels, with steel sheet profile plates. One form carried the plates for the sides, and two others were used for the roof. This arrangement allowed for the extra time required for the arched portion to set, before the forms were moved forward. An electrically driven 4 in. dia. pump, capable of delivering concrete through the pipe line up to a distance of 800 ft., was used to place the concrete behind the forms. The average rate of progress was about 9 ft. of lining per day. Refuges, constructed in brickwork for the sake of convenience, are provided at intervals of 66 ft. in the north wall of the tunnel.



Elevation of the eastern portals of the two Thurgoland tunnels

A special cast-iron smokeplate, 3 ft. 6 in. wide, was incorporated in the lining of the soffit. As the tunnel is on a gradient of 1 in 136, rising towards Penistone, the provision of this plate was considered advisable, to prevent deterioration of the concrete while steam-operated trains are using the railway. Special recesses for the supports of the overhead conductors were made in the soffit.

The floor of the tunnel was rough-trimmed to a cross fall of 1 in 30, and covered with a thin layer of lean concrete, graded with a spade to the same fall. A 9 in. dia. surface-water drain was laid in the cess on the low side. The invert of the pipe was bedded below floor level, with cemented joints, but the upper part was dry-jointed, and covered with rubble.

The portals of the tunnel are constructed in random-coursed local stone. A panel on each parapet bears the inscription "L.N.E.R. 1947," but the keystones are inscribed "B.R. 1948," to indicate the change to national ownership before the work was completed.

Opening of Tunnel

The new tunnel was brought into use on Sunday, October 3, when the railway engineers were granted an eleven-hour occupation to complete the work. In conjunction with the singling of the track through the old tunnel, the opportunity is being taken of removing the strengthening ribs of old rails, at the western end, and substituting additional rings of brickwork, set in lime-cement mortar. The steel ribs were inserted, many years ago, to counteract a tendency to deformation, at a point where



View in the completed tunnel, looking east from the western entrance, showing part brick arch, and smokeplate

the crown of the tunnel projects above the top of the sandstone strata.

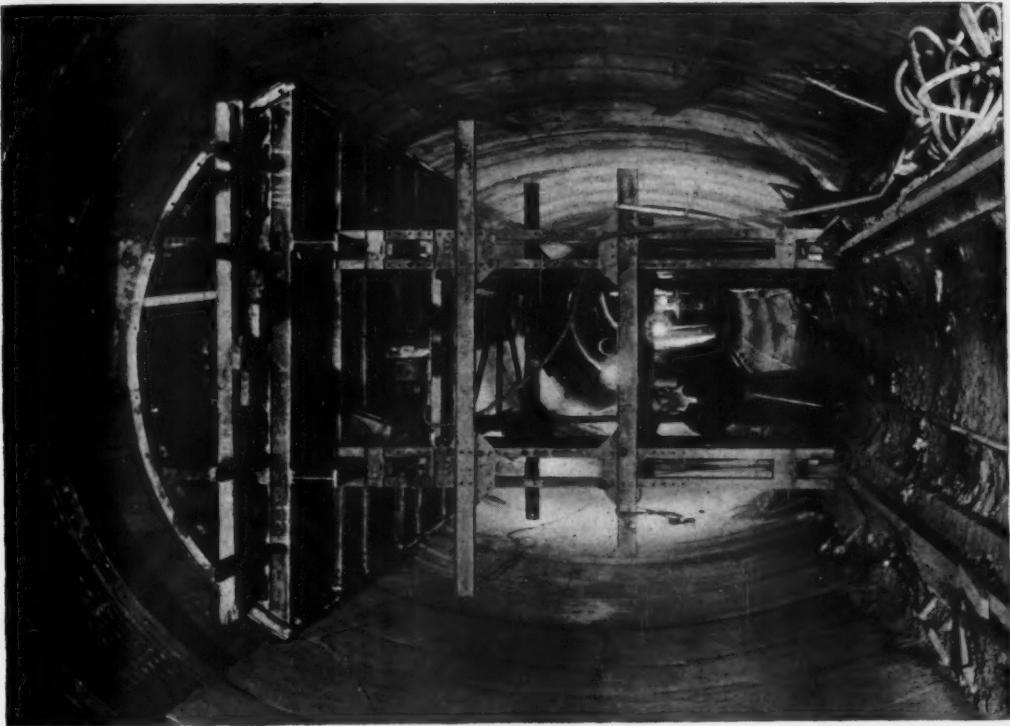
In addition to the construction of the new tunnel, the contract included the reconstruc-

tion of an overbridge, the diversion of a roadway near the western end of the tunnel, and the demolition of an overbridge near the eastern end.



Train emerging from the west portal during trial trip, shortly before the opening of the tunnel

New Tunnel at Thurgoland, Eastern Region



Travelling form used for the concreting of the arch, showing section of lining completed



View during construction, showing the concrete lining of the sides of the tunnel, and the arch lining, 230 ft from the west end

Foyer Interallié des Chemins de Fer

Formal opening of Transportation Club in Paris

ON Monday, October 4, the Foyer Interallié des Chemins de Fer, at 11, rue de Milan, Paris, close to St. Lazare Station, was opened formerly by M. Flouret, President of the French National Railways. A distinguished company of French railway officers was present, including M. Lemaire, General Manager, French National Railways, M. Durant, President of the Club, M. Darnis-Gravell, the Honorary Secretary, MM. Armand, Boyaux, Bourrel, Lagnace, Managers of the French Railway Regions, M. Margaux Noblemaire, Director of the Wagon-Lits company, and the following representatives of railways in other countries:—

Messrs. R. H. Hacker, Chief Officer (Continental), British Railways; A. M. Newbold, Vice-President of the Club and Paris representative, British Railways; Durrant, of the British Railways office in Paris; Colonel K. R. N. Speir, Secretary, the Transportation Club, London; M. Dubois, Paris representative of the Belgian National Railways; Colonel Craig, Commanding the Transportation Corps of the American Army in Paris; Messrs. Spencer, Paris representative of the Canadian Pacific Railway; Regemey, Paris representative of the Canadian National Railways; Blaser, Head of the Swiss Railway office in Paris, and de Rooij, Paris representative of the Dutch Railways.

Some 250 members of the club were present when a message was read from Sir Eustace Missenden, Chairman, Railway Executive, wishing the club all success.

M. Durant, in welcoming the President and General Manager of the French National Railways, and the representatives of Foreign Railways, said that he was glad to greet them in the dual role of Chairman of the Association Amicale et Professionnelle des Agents Supérieurs of the French Railways and Chairman of the Committee of the club. It was intended that the word "Interallié" in the title of the club should be interpreted to its full extent. It was to be essentially a club for railwaymen, past and present, but it would include all those who co-operated in the provision of transport as a whole. Although no publicity had been given to the opening of the club, there were already 350 members. The S.N.C.F. had contributed very generously to its formation. He thanked Mr. Newbold and other friends for the active part they had taken in ensuring the success of the venture.

M. Flouret said that the formation of the Foyer had been inspired largely by the Transportation Club in London. That club had been founded during the war by the British railways for their colleagues and for their American and Canadian brothers in arms. After the war it had developed into a prosperous club, open to all who were directly or indirectly attached to transportation. He welcomed Colonel Speir, Secretary of the London Transportation Club, who by his personality had won the affection and gratitude of all its members. He thanked him for having made the journey from London to Paris to be present at the inauguration of the French club.

M. Flouret added that when he had been asked to open the club he had agreed very willingly, first because he had known he would meet a large number of railwaymen, and also because he wished

(Continued on page 445)



Mr. R. H. Hacker, M. Flouret, and Colonel K. R. N. Speir at the opening ceremony



Colonel K. R. N. Speir speaking on behalf of the Transportation Club, London



Group including Mr. A. M. Newbold, Colonel Craig, and M. Flouret

New Station at Santander, Spanish National Railways



Reconstruction of the Spanish commercial centre at Santander, which suffered a severe hurricane in 1941, is nearing completion and the above view shows the new station where lines converge from Barcelona, Bilbao and Oviedo

Twin-Unit Diesel-Electric Locomotive in Service

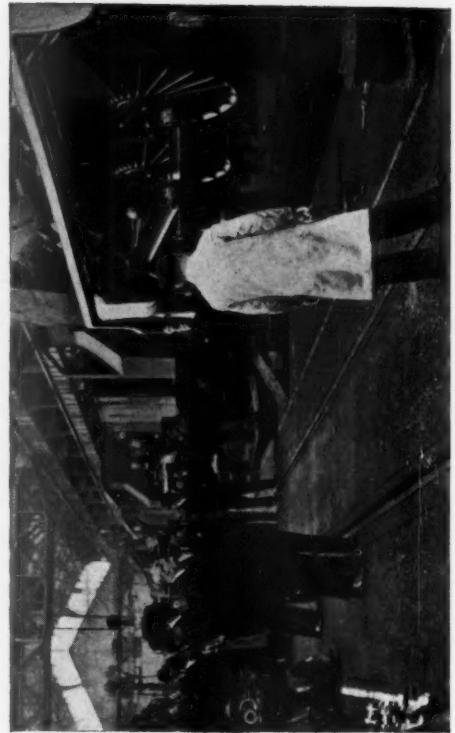


London Midland Region diesel-electric locomotives Nos. 10000 and 10001 in tandem, seen leaving Euston on a West Coast route Scottish express

Sir Cyril Hurcomb's Lancashire and Cheshire Tour



Left : Manchester divisional control office, where Sir Cyril Hurcomb, Chairman, British Transport Commission, is accompanied by Mr. V. M. Barrington-Ward, Member, Railway Executive, and Mr. R. O. Banister, Divisional Operating Manager, Manchester ; Right : Sir Cyril Hurcomb with Mr. J. H. Brebner, Chief Public Relations & Publicity Officer, British Transport Commission, Mr. G. L. Darbyshire, Chief Regional Officer, London Midland Region, and Mr. V. M. Barrington-Ward, watching a demonstration at Manchester School of Signalling



Details of the schemes announced by Sir Cyril Hurcomb during his recent three-day inspection of transport installations in Lancashire and Cheshire were given in our October 1 and 8 issues. He is seen above : Left : in Liverpool, Lime Street, electric signal box ; Right : in Crewe erecting shop

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RAILWAY NEWS SECTION

PERSONAL

Sir Eustace Missenden (Chairman of the Railway Executive) has consented to become President of the Railway Convalescent Homes for 1949, in succession to Colonel Sir Eric Gore Browne.

We regret to record the death on October 4, at the age of 79, of Mr. Aubrey Lewellyn Coventry Fell, C.B.E., M.I.E.E., who was General Manager of the London County Council Tramways from 1903 to 1924.

Mr. J. A. C. Picknell retired recently from the position of Assistant (Freight Services), Chief Operating Manager's Office, London Midland Region, British Railways.

Thos. W. Ward Limited announces the appointment as additional Local Directors of Mr. C. Parry, Mr. D. F. Walton, Mr. W. Hall, and Mr. H. H. Mumby.

The Directors of the former London & North Eastern Railway Company at their first reunion dinner, at the Great Eastern Hotel, Liverpool Street, recently, presented Mr. W. H. Johnson (now Acting Secretary, Hotels Executive) with a silver salver engraved as follows:—

"Presented to William Henry Johnson, Esq., Secretary of the London & North Eastern Railway Company from January 1, 1943, until its dissolution under the Transport Act of 1947, by the Directors of the Company in grateful appreciation of countless services rendered to them corporately and individually over many years."

GENERAL SIR WILLIAM SLIM
The War Office has announced that the King has approved the appointment of General Sir William Slim, G.B.E., K.C.B., D.S.O., M.C., to Chief of the Imperial General Staff. Sir William Slim has been a full-time member of the Railway Executive since its inception. He has had a distinguished military career, and before being appointed to the Railway Executive was Commandant of the Imperial Defence College. He was born in 1891, and was educated at King Edward's School, Birmingham. He saw service in the 1914-18 war in Gallipoli, France and Mesopotamia, and was wounded twice. In the recent war, after service elsewhere, he took command of the then newly-formed I. Burma Corps in March, 1942, and with his headquarters at Prome, directed its fighting withdrawal to India. He soon returned to Burma, directing the XV Indian Corps in the Arakan, and in October, 1943, he became commander of the newly-formed Fourteenth Army. His appointment to command Allied Land Forces, South-East Asia, was announced in September, 1945. When Sir William Slim returned home he became the first Commandant since the war of the then newly-reopened Imperial Defence College.

Mr. S. H. Fisher, C.V.O., M.Inst.T., Chief Operating Manager, London Midland Region, British Railways, who, as recorded in our September 3 issue, has been appointed Deputy Chief Regional Officer, as from October 1, was educated at Repton, and entered the service of the L.N.W.R. in 1904. After obtaining experience in the Goods and Traffic Departments, he was appointed Outdoor Assistant to the Superintendent of the Line in 1910. In 1912

August, 1944. He was made a C.V.O. in the New Year Honours List this year.

Mr. F. C. S. Evans, K.C., has been appointed Vice-President & General Counsel of the Canadian Pacific Railway. Mr. Evans, who has been General Counsel for the past year, joined the C.P.R. in 1935. Since 1938 he has successively held the following appointments in the company's Law Department; Solicitor; Assistant General Solicitor; General Solicitor; and General Counsel. In the recent freight rate hearing and appeal before the Canadian Board of Transport Commissioners, in conjunction with Mr. C. F. H. Carson, K.C., he argued the case for the C.P.R.

Mr. John Herbert Vickery, J.P., whose death, in his 87th year we recorded briefly last week, was Chief Docks Manager of the Great Western Railway from 1922 until his retirement in 1924. Mr. Vickery gained most of his experience in the service of the London & South Western Railway, on which he became, in due course, Chief Clerk to the Superintendent of the Line; London Divisional Superintendent; Assistant Superintendent of the Line; and Assistant to the General Manager. In 1913 he was appointed General Manager of the Alexandra (Newport & South Wales) Docks & Railway Company, and in 1922, on the amalgamation of that company with the Great Western Railway, he was appointed Chief Docks Manager of the latter.

Mr. F. W. Collins, Industrial Manager, Canadian Pacific Railway, Montreal, has arrived on a visit to Great Britain. He will tour the chief industrial centres, and meet executives of British firms contemplating opening branch establishments in Canada.

ULSTER TRANSPORT AUTHORITY
The Ulster Transport Authority has announced the following departmental appointments:—

Mr. R. E. M. Hughes (hitherto Passenger Superintendent, Northern Ireland Road Transport Board) to be Passenger Manager.

Mr. A. McCleery (formerly Traffic Superintendent, Northern Counties Committee, and since last March temporarily transferred to the N.I.R.T.B.) to be Freight Manager.

Mr. W. S. Marshall (hitherto Acting Traffic Superintendent, N.C.C.) to be Railway Operating Superintendent.

Mr. N. C. Cain (hitherto Civil Engineer, N.C.C.) to be Civil Engineer.

Mr. W. Archibald (who has hitherto held a similar position with the N.I.R.T.B.) to be Mechanical Engineer.

Mr. W. H. Duncan (hitherto Accountant, N.I.R.T.B.) to be Accountant.

Mr. V. McIvor (hitherto Stores Superintendent, N.I.R.T.B.) to be Stores Superintendent.

Mr. F. Moore (hitherto Hotels Manager, N.C.C.) to be Hotels Manager.



Mr. S. H. Fisher

Appointed Deputy Chief Regional Officer, London Midland Region, British Railways

he was appointed Assistant to the District Superintendent at Euston for the Southern District of the L.N.W.R., and in 1919 was made Assistant District Superintendent at Liverpool for the Northern District. In 1922 the Crewe District Goods Manager's District was converted into a Traffic Superintendent's District, and Mr. Fisher was appointed the District Traffic Superintendent there. In 1925 he was made Operating Assistant at Crewe to the Chief General Superintendent of the L.M.S.R., which position was later designated Divisional Superintendent of Operation, Western Division. Mr. Fisher was appointed Divisional Superintendent of Operation, Derby, in 1929, a position he held until his appointment in January, 1932, as Operating Assistant to the Chief General Superintendent. Nine months later he became Operating Superintendent, Euston, and in May, 1934, was made Assistant Chief Operating Manager. Mr. Fisher was appointed Deputy Chief Operating Manager at the end of 1943, and Chief Operating Manager in

October 15, 1948



Photo

Mr. A. E. H. Brown

Appointed Chief Docks Manager in South Wales,
Docks & Inland Waterways Executive



Mr. E. V. Swallow

Appointed Assistant Chief Docks Manager in South
Wales, Docks & Inland Waterways Executive



Mr. C. W. G. Elliff

Appointed Road Transport Liaison Officer,
Southern Region, British Railways

Mr. A. E. H. Brown, M.Inst.T., Assistant Chief Regional Officer, Eastern Region, Railway Executive, who, as recorded in our September 17 issue, has been appointed Chief Docks Manager in South Wales under the Docks & Inland Waterways Executive, was educated at Oundle School, and joined the Great Eastern Railway in the Department of the Superintendent of Operation after being demobilised from the Army in 1919. Two years later he was transferred to the Civil Engineers' Department, and in 1923 was

detailed to the Divisional General Manager's Office to assist the late Mr. F. V. Russell in the preparation of various schemes for the electrification of suburban and main lines. Mr. Brown was appointed Assistant Yardmaster at Ferme Park, in 1931, Assistant Stationmaster, Kings Cross, in 1933, and Deputy Chief Controller, Central Control (Southern Area), in 1935. In 1937 he went to Kings Cross as Assistant to the District Superintendent, and he was appointed full Assistant in 1939. He became District Superintendent, Sunder-

land, in April, 1940, and was made District Superintendent, Newcastle, in 1941. He was appointed Assistant Divisional General Manager for the Scottish Area of the L.N.E.R. in January, 1943, and took over the corresponding post for the Southern Area in July, 1945. Mr. Brown was made Assistant Chief Regional Officer for the Eastern Region, British Railways at the beginning of this year.

Mr. E. V. Swallow, J.P., who, as recorded in our September 17 issue, has been appointed Assistant Chief Docks Manager in South Wales under the Docks & Inland Waterways Executive, joined the Alexandra (Newport & South Wales) Docks & Railway Company in 1903. After obtaining wide experience in the Audit, Wharfinger's, Cargo and other outside Departments, he became Staff Clerk in the General Manager's Office. At the amalgamation of 1922 Mr. Swallow joined the Chief Docks Manager's staff of the Great Western Railway at Cardiff as Chief Staff & Relief Clerk; he was transferred in 1923 to Swansea Docks as General Cargo Superintendent. In 1926 he was promoted to be Assistant Docks Manager there, and in 1929 became Dock Manager, Port Talbot. Mr. Swallow was appointed Dock Manager, Barry, in 1933, and in January, 1946, became Dock Manager, Swansea, the position he vacates to take up his new appointment.

Mr. C. W. G. Elliff, who, as recorded in our October 1 issue, has been appointed Road Transport Liaison Officer, Southern Region, British Railways, entered the service of the South Eastern & Chatham Railway in 1911 in the Audit Accountant's Office, and was subsequently transferred to the Goods Manager's Office. From 1915-19 he served with H.M. Forces at home and in France, and held a commission in the City of London Fusiliers. When the grouping of the railways was effected in 1923 Mr. Elliff was appointed to the personal staff of the Chief Commercial Manager, Southern Railway, and he was transferred to the Traffic Manager's Department on its formation in 1930. Five years later he was appointed Assistant to Road Transport Liaison Officer and nominated a member of the standing joint committees set up under the

Presentation to Mr. S. H. Fisher



Presentations of a suitcase and a fountain pen and pencil were made recently to Mr. S. H. Fisher, Chief Operating Manager, London Midland Region, British Railways, from his headquarters staff, on his appointment as Deputy Chief Regional Officer. From left to right: Mr. Fisher, Mr. F. W. Abraham (Motive Power Superintendent) and Mr. J. W. Watkins (Operating Superintendent)

working agreements between the Southern Railway and its associated bus companies. He was appointed Acting Road Transport Liaison Officer during Mr. J. C. Chambers' absence on military service from September, 1939, to July, 1944, and in the latter year was appointed Deputy Road Transport Liaison Officer. Mr. Elliff is a Director of the Devon General Omnibus & Touring Co. Ltd. and Southern Vectis Omnibus Co. Ltd.; a member of the management committee of the Southern National Omnibus Co. Ltd.; and a member of the Exeter Joint Transport Committee.

We regret to record the death on October 7, at the age of 70, of Sir Frank Noyce, K.C.S.I., C.B.E., a Director of the East Indian Railway Company.

Mr. P. J. Fahey has been appointed Signal & Telegraph Engineer, New South Wales Government Railways, in succession to Mr. W. F. Barton, who retired on September 29 last.

Señor Roberto Iglesias has been appointed General Manager of the Central Argentine Railway, by a resolution of the Secretary of Transport, which also provides for the appointment of Señor Esteban Simón Chasceing as Sub-Manager. Mr. W. A. Pickwoad, late General Manager, has been transferred to the Transport Secretariat in an advisory capacity.

Mr. A. F. Kirby has been appointed Superintendent of the Line, East African Railways & Harbours. He has been until recently General Manager of the Palestine Railways.

Mr. L. G. Burleigh, M.Inst.T., who has been appointed Transport Officer to Imperial Chemical Industries Limited, saw active service from 1914 to 1920, after which he received training on the L.N.W.R., subsequently holding positions in the Operating, Commercial and Development Departments of the L.M.S.R. He joined the Central Transport Department of I.C.I. in 1928; he later served as Assistant Transport Manager at Billingham, and then returned to London in 1937. In 1941 he was seconded to the Ministry of Supply as Controller of Vehicles & Factory Transport, in charge of the transport of staff and materials at all Royal Ordnance factories and other Ministry depots. Mr. Burleigh returned to I.C.I. in 1945.

OFFICE VAUDOIS DU TOURISME:
MEMBERS' GOODWILL MISSION TO LONDON
Eleven prominent members of the Office Vaudois du Tourisme and the Swiss Federal and Cantonal Governments are due to arrive in London by air on October 24 to visit their friends, collaborators and colleagues. The members, who will be in London until October 30, are:

Mr. H. Guhl, Solicitor, Chairman, Office Vaudois du Tourisme, Montreux; Mr. G. Despland, Member of the Swiss Federal Parliament in Berne, and State Councillor, Canton of Vaud, Lausanne, Vice-President, Swiss National Tourist Office; Mr. A. Maret, State Councillor, Canton of Vaud, Lausanne; Mr. P. Gruber, Member of the Swiss Federal Parliament in Berne, and Mayor of Lausanne; Mr. Ed. Auberson, Chairman, Nyon-St. Cergue-Morez-St. Cergue Railway; Mr. P. H. Jacard, Manager, Lausanne Tourist Office; Mr. Roy Juvet, Manager, Chateau d'Oex Development Society; Mr. M. Lamuniere, Manager, Vevey Tourist Office; Mr. Perret, Chairman, Hotel Association, Villars; Mr. Ch. Delapraz, Manager, Vevey-Mont Pelerin Railway, Vevey; Mr. R. A. Alblas, Manager, Montreux Tourist Office.

Mr. T. A. Germaine, O.B.E., who since 1946 has been North Western Representative, Manchester, of the Press Relations Officer, Eastern & North Eastern Regions (and previously L.N.E.R.), has been promoted to a post in the department of the Regional Staff Officer, Eastern Region.

Mr. Germaine will be succeeded by Mr. F. L. Jones, General Assistant to the Press Relations Officer. Mr. Jones commenced his railway career with the North British Railway in 1916, and, after experience in various sections of district operating and commercial offices, entered the Commercial Advertising Department at Marylebone L.N.E.R., in 1932. Ten years later he was appointed to the Press Relations Officer's Scottish office in Edinburgh, and in 1946 took over the post he now vacates.

Mr. G. H. Binnie, A.M.I.Mech.E., A.M.I.Loco.E., who has been appointed Railway Mechanical Engineer with the Aluminium Development Association, served an apprenticeship in the Great Western Railway works at Swindon from 1924, and afterwards worked in the drawing office there. He was appointed Assistant Mechanical Engineer on the Indian State Railways in 1932 and was posted to Burma. He was commissioned in the Indian Engineers in 1942, and was evacuated from Burma in May of that year, returning to that country in command of a railway operating company in March, 1945. He rejoined the Burmese Railways in January, 1946, and retired in 1947 as a District Mechanical Engineer.

LONDON MIDLAND REGION APPOINTMENTS

Mr. C. G. Derbyshire, Signalling Assistant, Signal & Telecommunications Engineer's Department, Euston, to be Acting Divisional Signal & Telecommunications Engineer, Manchester.

Mr. J. Hollingworth, Assistant District Traffic Manager (Commercial & Goods Operating), Chester, to be Assistant District Goods Manager, Manchester.

Mr. H. A. Mugliston, Goods Agent, Edge Hill, to succeed Mr. J. Hollingworth as Assistant District Traffic Manager, Chester.

Mr. R. W. Coulston, Chief Inspector, Police Department, Leeds, to be Divisional Police Superintendent, Leeds.

Mr. L. Gallimore, Workshop Supervisor, Signal & Telecommunications Engineer's Department, Crewe, to be Works Manager, Signal & Telecommunications Engineer's Department, Crewe.

Foyer Interallié des Chemins de Fer

(Concluded from page 440.)

to show how much interest he had in this happy project. He wished the club all good luck and prosperity.

Colonel Speir said that as Secretary of the Transportation Club in London he had been asked by the Chairman of the Committee, Mr. J. A. Kay, to express his appreciation of the invitation to attend the inaugural ceremony. Mr. Kay had been unable to attend, but he had asked Colonel Speir to represent him and to express to the Foyer Interallié all good wishes on behalf of himself and the Committee of the Transportation Club. The establishment of the Paris club for the transport industry had been marked with considerable satisfaction by English transport personnel and they would watch with great interest the progress of the Paris club. He added that the London Transportation Club would always be open to members of the French club when they were visiting England.

Southampton Half-Centenary

Fifty years ago, on October 12, 1898, a massive coping stone of Cornish granite was laid at Berth 37, to mark the southernmost limit of Southampton Docks, and to commemorate the laying of the original foundation stone on the same day sixty years earlier. At a masonic ceremony arranged for the occasion, the Chairman of the L.S.W.R. opened the proceedings with a speech which included these prophetic words: "Our motto still is progress—we have not done yet."

The past fifty years have seen a remarkable growth in the accommodation and trade of the port, and today Southampton ranks as Britain's premier passenger port and an important cargo centre. This year, the port also became the country's principal marine air base. Two major wars have occurred during the period, and in both of these, the port, by its ready adaptability, has given distinguished service.

In 1898, the length of quays at the docks was about 15,000 ft., and the greatest depth of water at low tide was 28 ft.; today the quay accommodation has more than doubled, and some berths are dredged to a depth of 45 ft. at low tide. The largest dry dock at the port at that time was 750 ft. in length, whereas the largest dry dock today, the King George V Graving Dock, is 1,200 ft. long. Fifty years ago there was no provision for cold storage at the docks, no telephone system, and horses were still largely used for local transport.

Towards the end of the nineteenth century, the tendency to build larger ships was growing, and the double tides with moderate tidal range, were particularly valuable in manoeuvring these large liners.

On May 29, 1907, the largest liner in the world at the time, the *Adriatic*, arrived at Southampton to inaugurate the White Star Line service from this port. An interesting comparison is afforded between the size of this liner—24,679 gross tons—and the size of the world's largest liner today, the *Queen Elizabeth*, of 83,673 gross tons.

It was largely for the needs of the White Star Line that the Ocean Dock was opened in 1911, and the decision to build it was well justified, especially when in 1919 the Cunard Line also decided to use Southampton for its express service to New York.

Another notable step forward in the port's trade had occurred in 1900, when following the amalgamation of the Castle Line and the Union Steamship Company, the Union Castle Line became firmly established at Southampton.

As other shipping companies began to use Southampton, and as the demand for accommodation continued to grow, the Southern Railway, with an eye to the future, embarked on the boldest extension scheme undertaken at the port. The scheme was started in 1927, and, despite the trade depression of the early 30's, was carried on and completed by 1934. As a result, the port benefited by a 7,500 ft. deep water quay, with berths for eight large liners; the King George V Graving Dock; and an estate for industrial development.

How the developments since 1898 have affected the docks can best be appreciated by comparing the figures for that year with those of the last complete pre-war year of 1938. The gross tonnage of shipping entering increased from nearly 5,000,000 to 19,000,000, and the number of passengers arriving and departing from about 189,000 to 560,000.

Meals on British Railways

The following correspondence, entitled "A Meal on a Train," has been appearing in recent issues of *The Times*:—

Sir,—We read that the railway passenger traffic figures are disappointingly low; I, for one, am not at all surprised.

I had a gruelling day of public duties in my constituency on Saturday, and I caught (it was not difficult, the train was half-an-hour late) the so-called 11.52 a.m. at Exeter to come back to London on Sunday. An application for a ticket in the dining car resulted in my being told that every ticket had been handed out before the train reached Exeter, and that no one else could be served. This sort of thing had happened to me before, and the worm turned. Protests against this disgraceful service, both in the dining car and to a railway inspector, brought no change, but after the train started from Exeter a gentleman, who had got in at Newton Abbot, returned from the dining car to his seat opposite mine. We knew each other; he is a railway official. I told him just what I thought, and he most obligingly said that he would arrange for me to get some food. He evidently spoke to the attendant, who came to the carriage and asked, "Which is the gentleman?"

My courage had risen by now, and I said that I refused to have any food at all unless the lady and gentleman and their small 19 months-old boy in my carriage were also fed. The attendant retreated and returned with luncheon tickets, but by this time, after Taunton, two more people had got in, and so he was forced to provide for at least six. In the result no fewer than 23 people were fed; soup, fish, vegetables, and sweet or cheese.

On returning to my carriage I thanked the friendly official, who was indignant at the laziness which we had defeated; I was not pleased at his additional anger when I told him that I had had cheese. "What," he said, "did you have cheese? They told me there wasn't any!" Such a state of affairs is quite intolerable, and unworthy of any railway—I do not believe it could have happened in the days when the line was our dear old friend the G.W.R.

Yours, &c.,
JOHN MAUDE

House of Commons.

Sir,—With reference to the letter published in *The Times* under the heading of "A Meal on a Train," I have written to Mr. John Maude, M.P., thanking him for calling attention to the difficulty which certain passengers had in obtaining a meal on the train on which he travelled last Sunday. As a result of inquiries I have made I find that the timing of this train normally permits of the provision of only three meal services. The conductor in charge of the restaurant car received a number of requests for lunch tickets from passengers joining the train at Exeter, and in view of this and the fact that the train was running late a fourth service of luncheon was arranged, which would not have been possible if the train had been running on time.

In such a large organisation, called upon to provide more than 10 million meals on restaurant cars in the course of a year, it is possible that there may be occasions when passengers have reason to feel aggrieved. The Hotels Executive, however, are resolved to make every effort to ensure that the travelling public obtain the best possible service. In fairness to the

staff I should add that, notwithstanding the difficulties of today, many letters have been received from the public expressing appreciation of the service provided.

Yours faithfully,

INMAN, Chairman, Hotels Executive,
British Transport Commission.
Euston Station, N.W.1, Oct. 7

Sir,—While Mr. Maude will have the sympathy of many on the point he has raised about the routine booking of meals on British Railways, I feel that it would be unfair to withhold an expression of real satisfaction at the steady improvement to be observed in the service in recent months.

It has been my duty to travel between Paddington and South Wales every week for some time recently, and I have been struck by the efficiency, courtesy, and teamwork of the personnel in the dining cars—for breakfast, luncheon and dinner—and also the continued improvement in the quality, variety, and presentation of the fare. For myself, I have felt a friendliness and personal quality about the service which reminds me more of club servants than of restaurant waiters, and there must be many "regulars" on this line who are coming to feel the same.

I am, Yours, &c.,
DAVID CLEGHORN THOMSON
The Savile Club, 69, Brook Street,
W.1, Oct. 6

Sir,—Mr. Maude seems to have been unlucky. I have during the past week had three quite contrary experiences to his. On Saturday last I travelled from Euston to Manchester by the 12.15 p.m. train, and apart from having to listen to a doctor and his wife condemning his Majesty's Government in the most ill-chosen language to two American strangers, I had a most comfortable journey. I not only ate good and well cooked food—the fish being delicious—but the staff in and out of the dining-car was courteous and kindly in the extreme. I took my seat for lunch on boarding the train, and when I later had to move to another carriage an attendant helped me to find another place and carried my luggage to it.

Returning south on Monday from Bradford, I travelled with a passenger suffering from some disability, but quite able, if necessary, to feed in the restaurant car. To make things easier for him, however, his meal was brought to the carriage precisely at the time pre-arranged, and was hot and nicely served by a well-groomed member of the staff. Finally, on Tuesday, when I caught the Dublin boat train from Euston at 3.45 p.m., I was at my own request issued with a ticket for the second dinner, and though a long way from the dining-car was called for this and most courteously treated and again well fed. I crossed over here carrying with me an excellent impression of British Railways, whose general service has noticeably improved in every direction in recent months.

I am, Sir, Your obedient servant,
T. C. SKEFFINGTON-LODGE
The Central Hotel, Dublin, Oct. 7

Sir,—Mr. Maude's letter in your issue of October 6 prompts me to cap it. After a year's absence in Canada I arrived at Liverpool last Saturday in the *Empress of Canada*. In the special boat train to Euston luncheon was provided at a cost of

4s. Similar food in a "popular" restaurant would have cost 1s. 6d. at most, but it would probably have been accompanied by cleanliness. Here the tablecloths were dirty, and all the crockery I saw had dried fragments of previous meals adhering to it.

Canadian travel agencies are displaying attractive British Railway posters, with invitations to "Come to Britain." I wonder what Canadians arriving for the first time thought of it after the immaculate cleanliness of their own dining-cars!

Yours faithfully,

H. A. CHAMBERS
25, Hamilton Road, Harrow, Oct. 7

Sir,—After Mr. John Maude's letter, I feel I should record my gratitude to the attendants of the restaurant car between Inverness and Perth last Sunday night who at some considerable personal inconvenience put on an extra meal for my wife and myself, and for some others, rather than risk some of their passengers going supperless to a night in the train. I must add, lest I should be misunderstood, that none of the attendants concerned could possibly have known that they were entertaining an avowed critic of nationalisation. I made a mental note at the time that their consideration and eagerness to serve would be a model to some catering establishments not owned by a State monopoly.

Yours, &c.,
QUINTIN HOGG

Oct. 8

Reconstruction of Chinese Railways

Because communications are of vital importance in such a vast country as China, their control is one of the main military objectives, and remarkable work is being done in keeping them open despite inflation and civil war. Altogether, only 600 km. of the 11,300 km. of lines north of the Great Wall are in the hands of the government, and are administered by the Minister of Communications. A year ago services were operated over 3,400 km. There have been unconfirmed reports that some of the lines in the north of Manchuria have been converted to the Russian broad gauge. About half of the 8,500 km. of track between the Great Wall and the Yangtze remains in government hands, but services are greatly curtailed.

Services, which suffer from periodic interruptions, are available from Tientsin to Shantung; Tientsin to Peking and Kalgan, along the western sections of the Lunghai; and Hankow to Hsichow. Long distances of track have been damaged irreparably by the Communists, who have torn up rails and burned sleepers, but where possible government engineers and maintenance gangs have worked speedily, erecting temporary bridges and carrying out repairs.

During the war, most of the 6,600 km. of track south of the Yangtze was destroyed, but the government, with 4,500 km. working today, is restoring damaged sections such as the central part of the Chekiang-Kiangsi railway and constructing new lines.

The efficient Nanking-Shanghai railway, which carried 1,100,000 passengers monthly before the war, is now carrying 2,500,000, with about the same number of locomotives but nearly twice as many coaches and goods wagons, most of which have been obtained through U.N.R.R.A.

Cartage Supervisors' Course

A novel course of instruction has just been completed at the Hadley Wood railway training centre, where eighteen cartage supervisors drawn from all regions of British Railways have been discussing the aims and objects of the railway cartage service and various means of improving its economy and efficiency. The course, which lasted for five days, from October 11 to 15, consisted of open discussion on such matters as the functions of the cartage service, development, suitability of vehicles, accident prevention and statistical control. Each subject was introduced by a railway officer who is an expert in that particular branch of cartage work.

The St. Ronan's centre, where the course has been held, is fully equipped for residential purposes and those attending lived on the premises during the course.

Mr. David Blee, Member, Railway Executive, who opened the proceedings, on October 11, said that cartage had a two-fold significance for him, as it was both part of his responsibility at the Railway Executive and the subject of a personal interest. The conference would be of special value, as it would be a means of explaining the headquarters' view to the

man on the spot, and there would be the opportunity for the most free and open debate.

The first discussion was opened by Mr. A. A. Harrison, Executive Officer (Road Transport), Railway Executive, who pointed out that, in its broadest sense, the function of the cartage service was to

	Subject	Discussion opened by
October 11	The functions and objects of cartage services	Mr. A. A. Harrison, Executive Officer (Road Transport), Railway Executive
October 12	The development of cartage services and its effect on the overall efficiency of railway transport The relative suitability of different types of vehicles	Mr. G. A. Griddle, Cartage Assistant to Chief Operating Manager, London Midland Region Mr. A. R. Wilson, Cartage Manager, Eastern Region
October 13	Cartage statistics	Mr. S. W. Smith, Assistant to Cartage Manager, Eastern Region
October 13	Cartage accidents	Mr. S. R. Ager, Assistant to Executive Officer (Road Transport), Railway Executive
October 14	Ways in which effective local supervision can improve efficiency Heavy haulage	Mr. W. O. Sprague, Road Transport Assistant to Commercial Superintendent, Southern Region Mr. A. R. Wilson, Cartage Manager, Eastern Region
October 14	The effect of station time on total cost per ton. How commercial staff can help road motor engineer's staff to do their job Training of motor drivers	Mr. F. T. Gray, Cartage Manager, North Eastern Region Mr. A. E. C. Dent, Executive Officer (Road Motor Engineering), Railway Executive Mr. G. H. Dean, Road Motor Inspector, London Midland Region
October 15	Station documentation and its effect on cartage efficiency Claims prevention—How the Cartage Department can assist	Mr. F. T. Gray, Cartage Manager, North Eastern Region Mr. L. Meara, Road Transport Controller, Scottish Region

The Canadian Railway Outlook

The railways are vital to the economy and development of Canada

At the Transportation & Commercial Travellers' Day Luncheon at the Canadian National Exhibition, Toronto, on September 9, Mr. R. C. Vaughan, C.M.G., Chairman & President, Canadian National Railways, delivered an address in which he stated that the importance of the railway industry to the well-being and development of Canada was indisputable. Some weeks ago, for some uneasy hours, the possibility that the railway services of Canada would cease operation, scared the country. The peril was averted, but at a cost which, unless steps could be devised to offset it, added a dangerous element of insecurity to the future of the railway transport industry of Canada.

The railway service, which vitally affected all who lived in the country, often went unrecognised. Principally, it was because many citizens did not patronise the railways directly and thereby came to accept them without thinking. Last year the railways of Canada hauled for every Canadian an average of about 12 tons of freight over a distance of about 400 miles. The tonnage was made up of food, clothing, fuel, and the thousand and one things used by Canadians during 1947, and the Canadian railways hauled it at the lowest rates in the world.

It was impossible to have a strong Canada without strong and healthy railways. No other forms of transport, despite their excellence within their limitations, could handle even the peacetime load. In war and peace the railways were the servants and guardians of the nation, and had to be maintained as such. There was no possibility, in foreseeable time, of doing without them. They were the foundation of a vast and intricate economic system, and it was important to the common welfare that they were enabled to maintain their service for the public convenience. It would be difficult to imagine that road vehicles and aircraft could ever replace them, for the task was too great, the demands too variable, and the cost to the public too high. Those

other services had a job to do and were doing it effectively, but it was idle to pretend that they could ever replace the railways, and they would be the last to say that they could. There was proof of that in the Russian blockade of Berlin, where, with railway services cut off, but one city could be maintained only partially by air transport, and only on the lowest living level and at a financial cost that worried the nations involved. In Canada, if the wheat crop of the west had to be moved from the prairies to the Atlantic seaboard by road, the value of the petrol consumed would be greater than that of the wheat moved.

There had been criticism of the railways, some perhaps deserved, but much undeserved. It had been said that they had been too slow in ordering new equipment. The truth was that much equipment was on order, and it was going into service as fast as delivered, but the railways had been vexed with shortages of materials. During the war it was impossible to obtain priorities for the equipment needed because of the shortage of materials required for war work, although much new rolling stock was ordered and delivered to the extent that priorities could be obtained. Since the war, although orders for many millions of dollars worth of new equipment had been placed, deliveries sometimes took 1½ to 2 years. Canadian manufacturers of rolling stock had not been able so far to build the ultra-modern types of passenger equipment in use on some railways in the United States, nor were Canadian locomotive builders able to construct diesel road engines in their plants, although they were assembling smaller diesel shunters.

Although the railways were suffering from shortages and the rising costs of material and labour, they, unlike other businesses, could not sell their product, transport, in a free market. The selling price of their product was controlled. They always operated under a price ceiling, and a low one. Some months ago,

after more than a year of argument, they were granted a 21 per cent. increase in freight rates, applicable from April 8 last, but because of exceptions on which the new rates could not be applied, the overall increase was only 13½ per cent. The financial benefit to the railways from this increase was meant to compensate for increased operating costs up to 1947, but it did not take into account the many further rises in material and labour, or other costs.

Before the war, when freight rates were increased in the United States, it followed usually that similar increases were granted to Canadian railways. Since 1941 the United States railways, operated under more favourable conditions than those in Canada, had been permitted an overall increase of 45 per cent.—and they had recently applied for further increases—against the 13½ per cent. overall increase given in Canada. Railways in other countries had been allowed to increase their charges to enable them to meet greatly increased costs.

The recent freight rate increase was estimated to provide the Canadian railways with 70,000,000 dollars yearly. Several adjustments in working conditions since the increase, cost the railways several millions a year, and the recent increased wage awards, made retro-active to March 1 last, would cost them 81,000,000 dollars a year. Of that, 42,500,000 dollars would have to be paid by the Canadian National Railways. At the same time, the added cost of materials for 1948 over 1947 to the Canadian railways would be 36,000,000 dollars. The Canadian railways would have to assume new costs already amounting to more than 120,000,000 dollars a year, to offset which they had been provided with 70,000,000 dollars a year additional revenue from increased freight rates. The present wage and material bill of the Canadian National Railways alone would be 180,000,000 dollars a year more than at 1939 rates of wages and costs of materials.

Railway support for industry and agriculture existed not only in the form of transport, but also in the great volume of purchases of the Canadian railways, amounting to 350,000,000 dollars a year

and covering almost every product manufactured, grown, or mined in Canada. The immense indirect purchasing power of the railways was exemplified by their payrolls, which totalled \$25,000,000 dollars a year. In addition, the railways spent large sums to pay for interest charges, taxes, insurance, pensions, duty, sales tax, and so on. For every dollar invested in the railways in Canada there had been created fourteen dollars of national wealth, and the railways, so vital to the national economy, consumed only 7½ per cent. of the national income. It would be disastrous to Canada if the goose that laid the golden egg were killed, or seriously injured.

Almost every day requests were received for more, better, and faster trains, more modern equipment, new stations, improved roadbed, new branch lines, new hotels, new steamships, and so on. How could these facilities be provided if the railways were not permitted to earn sufficient to finance them? The railways had been the backbone of Canada for generations and would continue to be so for a long time to come. Expenses could be cut only by reducing the number of employees, but to do so would affect adversely nearly every community and industry in Canada.

Parliamentary Notes

Safety Measures on Railways

Mr. A. J. Champion (Derby Southern—Lab.), on the motion for the adjournment of the House of Commons on September 22, raised the question of safety on the railways. He said he believed it was possible to reach a very much higher standard. He paid tribute to the railways for the comparative freedom from accidents which we had here. The fatality rate was one in 250,000,000 miles. That was a very high rate of safety, but not high enough. He paid tribute, too, to the continuous care of railway employees, which was worthy of the highest praise. Our railwaymen had shown standards of honest work and a tradition of service which were of the highest. They had to recognise that there was a task falling on the Railway Executive, on the railway trade unions, and on the older railwaymen at this time, to ensure that the tradition of honest work and care was maintained and handed on to the younger generation of railwaymen.

Railway safety was too wide a subject to deal with in all its aspects in an adjournment speech, and therefore he intended to raise only the subject of train accidents and not the movement or non-movement accidents, all of which found their way into the report of the Chief Inspector of Railways. There were three main tried safety devices available. The first was automatic train control—a device which ensured that the driver should have repeated in the cab of his engine something which would indicate to him his position in relation to certain signals, enabling him to be warned in his cab of the aspect of the signals that were being shown, and would in certain circumstances apply brakes to the engine and bring the train to a standstill.

The second well-known device was track circuiting. It was a device which enabled the position of a train to be electrically repeated in signal boxes at both ends, and also it would control the block instruments in those signal boxes and the signals which permitted entry into the section. That really meant that if they had a train standing on a piece of track which was circuited, it was impossible for the signal-

man to permit another train to enter behind it.

There was the third device of locking the signal by the block instrument position. He realised that that was rather technical, but those were part of the safety devices which could be used at this time. The last he had mentioned was a comparatively simple device which prevented a signalman pulling off a signal controlling entrance to a section if he had not got the "line clear" showing on his block instrument from the signal box in advance. The first of the three devices was to aid the driver; the other two were intended as a safeguard against signalmen's errors.

The necessity for automatic train control came out very clearly in Sir Alan Mount's report for 1947. He gave figures for fatalities in train accidents which might have been prevented had that been installed on all the railways. The percentage for the period 1930-37 was 39 per cent., and for the period 1938-47 it was 31 per cent.

He suggested to the Minister that there was urgent necessity for an immediate programme of extension of the automatic train control to the remainder of the main lines not at present covered by that system. It was recommended by a committee which reported in 1922; and the report of that year made it quite clear that it would be a system which, if installed, would bring about a greater measure of safety on the railways. That was repeated in 1930, when a committee sat to examine the matter again, and came to the same conclusion.

Despite what he said about the comparative safety of British railways, he believed that it was disgraceful that after all this time we still had a large part of the main-line system which was not covered by the automatic train control. The Chief Inspector of Railways, in his concluding paragraph, made it quite clear that he thought, too, that at this time we ought to have the whole of the railway system covered by automatic train control. He made it quite clear that he thought the Railway Executive should embark on a big extension of that system of control.

The next point was that of track circuiting. No figure was given in the report of the Chief Inspector of Railways of how many of these accidents would have been prevented if there had been devices installed to prevent signalmen's errors. Some indication was given in the 1930 report. He thought it fair to assume, from figures given in reports previous to 1947, that, if they had the signalman's possible errors covered by safety devices, the number of fatalities would have been reduced by 50 per cent. That was a big figure. A greater extension of track circuiting should, despite the heavy cost, be considered by the Minister and by the Railway Executive. There would be, at any rate, justification for the extension of the system of track circuiting to much of our main lines.

The Railway Executive at this time should be deciding on a big expansion of the system of locking starting signals by the block position. As one who had worked in a signal box, he could testify to its value. Looking through the report to the Minister for 1947, he read the details of the Doncaster disaster in which 18 were killed and 120 injured, and it seemed to him that the simple device of locking the signal by the block instrument might have prevented that disaster.

There were other things which should be mentioned in connection with safety devices. There was the possibility of short-wave communication between train-

men and signalmen. He had doubts about the immediate practicability of that, but research might reveal possible uses of that device. There were, too, possibilities of great improvements in signalling methods, for instance, greater penetration of light. All those things were worthy of consideration, and he sincerely hoped that the Minister and the Railway Executive would look into all of them and, what was more important, take decisions now which would cause a big extension and expansion of those safety devices on the railways.

MINISTER'S REPLY

Mr. Alfred Barnes (Minister of Transport) said that the nationalisation of transport had in no way interfered with the duties and responsibilities of the department of the Chief Inspector of Railways. It would function under the British Transport Commission and the Railway Executive in the same way as it previously functioned in regard to the four main-line railway companies. It was desirable that the public should know that the Ministry of Transport Inspectorate was independent as it had been in the past.

He would like to present in another form what he considered to be rather impressive figures which demonstrated the safety of travelling on the railways. He quite agreed that 1947, in comparison with previous years, was in a sense a bad year; but even in 1947, which was rather above the average, the fatalities amounted to only one out of every 18,000,000 passenger journeys embarked on on British Railways. If only they could get in every form of transport the same measure of safety which prevailed on the railways, he and other Ministers of Transport would be very much happier. For instance, if one compared the fatalities in accidents in 1947, one found that on the railways there were 121 killed and 1,327 injured; but in road accidents in 1947, 4,881 persons were killed and 161,318 were injured.

He could assure Mr. Champion, without any qualification whatever, that in the British Transport Commission and the Railway Executive, and certainly in his own railway inspectorate, there was no difference of opinion in principle on the need for carrying out the reforms he had indicated. When he said "reforms," it really came down to the extension to the whole of the main-line routes of this country of instruments of safeguard which had already been fairly well tested in certain directions. But it must be borne in mind that the British Transport Commission and the Railway Executive today were not faced simply with the extension of automatic train control and track circuiting on one particular railway system. Whatever they decided now must be decided with the fact in view that it must apply over the whole of the main-line routes of this country.

There was no difference of opinion on the need to expand and extend automatic train control, but there were certain applications which required further experimentation, and a section of line was already set aside by the Railway Executive, and experiments would be made extensively on that stretch. Drivers from all the systems would be given the opportunity to express their views. The programme of extending automatic train control to all the main lines would represent an expenditure of from £6,000,000 to £8,000,000 and, in relation to the capital invested in the railways, that was not excessive.

Regarding track circuiting, that was already going on, but the programme so

far sanctioned represented a further expenditure of £5,000,000. But it was not this capital expenditure which represented the difficulty today. The limiting factor was shortage of equipment of the character which represented demands on light electrical equipment manufactured in this country, and represented demands on manpower and material at present already considerably overstrained by other parts of the railway system. It was not the desire of the Railway Executive which was limiting the rate of progress; it was those physical factors to which he had referred, and Mr. Champion could rest assured that the railway inspectorate, the Railway Executive, and the British Transport Commission would do everything they could to extend the system of track circuiting and automatic train control so far as, and as quickly as, the circumstances of today permitted.

With regard to radar and radio transmission and research into them, the research department of the British Transport Commission were aware of the need for investigation, but he could not hold out a great deal of hope so far as the immediate programme was concerned. Taking into account the conditions of our railways, the density of traffic, the number of lines in this country, and matters of that kind, while, of course, all those new devices and developments would be examined; the Minister did not consider that one could look to radar and radio transmission for very substantial improvement.

He concluded by assuring Mr. Champion that the issue he had raised was fully accepted in principle by the three sections he referred to, and so far as manpower and material would allow, those measures would be pressed forward as expeditiously and as rapidly as possible.

BRAZILIAN RAILWAYS TAKEOVER.—It is believed that the Brazilian Minister of Communications and Public Works probably will not proceed with the Great Western of Brazil Railway takeover before the Leopoldina question has been settled.

IRON & STEEL PRODUCTION.—The British Iron & Steel Federation has announced that steel production in September, the first full month after the holiday period, was at the annual rate of 15,435,000 tons, compared with a rate of 14,117,000 tons in August and 13,841,000 tons in September, 1947. The record output, in June this year, was at the annual rate of 15,444,000 tons. The following are some comparative figures:—

PIG IRON

	1947		1948	
	Weekly	Average	Weekly	Average
First half ...	138	7,176	178	9,274
July ...	143	7,460	171	8,908
August ...	147	7,657	174	9,048
September ...	150	7,805	181	9,407

STEEL INGOTS AND CASTINGS

	(000's of tons)			
	1947	1948	1947	1948
First half ...	230	11,963	291	15,129
July ...	212	11,008	232	12,084
August ...	234	12,179	271	14,117
September ...	266	13,841	297	15,435

The Federation states that steelmakers have been able to maintain a high level of production largely because of the success of the home scrap campaign, inaugurated by the Federation, the Joint Iron Council, and the Scrap Merchants' Federation in October last year. A further appeal is now being launched.

Notes and News

The Institute of Welding.—At 6 p.m., October 27, the Institute of Welding presidential address will be given by Mr. J. H. Paterson, at the Institution of Civil Engineers, Great George Street, London, S.W.1.

The Institution of Mechanical Engineers.—Captain (E) W. Gregson, R.N.R., will deliver his presidential address to the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at a general meeting to be held on October 22, at 6 p.m.

Accounting Assistant Required.—Applications are invited from qualified candidates for the post of accounting assistant, not over 30 years of age, for the East African Railways & Harbours, for service in Tanganyika for one tour of 24 to 36 months in the first instance. See Official Notices on page 451.

Overseas Food Corporation.—Applications are invited for the appointment of traffic manager in East Africa. Applicants should have had a minimum of ten years' experience, preferably in the traffic department of a large commercial undertaking, or railway experience of a commercial nature, and be thoroughly versed in all matters concerning road and rail traffic. See Official Notices on page 451.

Railway Officers' Visit to Peterborough.—Mr. W. P. Allen, the Member of the Railway Executive responsible for staff and welfare matters, Mr. C. K. Bird, Chief Regional Officer, Eastern Region, and Mr. H. H. Halliday, Regional Staff Officer, visited Peterborough recently and met upwards of 100 representatives of all grades of railway staff employed in the vicinity. The object of the visit was to provide an opportunity for discussion between representatives of the railway management and employees. No agenda had been arranged, as the proceedings were

intended to be informal and free from restrictions. After Mr. Allen had given a short address the meeting took the form of a discussion on suggestions put forward and queries raised by the staff representatives.

Skefko Ball Bearing Co. Ltd.—At a meeting of the directors held on October 6 an interim dividend of threepence per stock unit of five shillings, free of income tax, in respect of the year ending December 31, 1948, was declared, payable on November 10, 1948.

Austrian Coaches for Turkey.—The Turkish Minister of Communications announced recently that an agreement has been signed between the Turkish State Railways and firms in Austria for the supply to Turkey of eighty sleeping cars in return for Turkish tobacco.

Liverpool Overhead Traffics.—Increases have been shown in Liverpool Overhead Railway traffics for three of the weeks during September, and at September 26 the aggregate of £109,527 had decreased to £1,041 below last year. For the closing week of September, traffics at £2,800 showed an improvement of £202.

Guest, Keen & Nettlefolds Limited.—The directors of Guest, Keen & Nettlefolds Limited have declared trading profits of £6,101,839 for the year ended March 31, 1948. The consolidated balance sheet shows current assets of the group amounting to £25,038,142 and current liabilities of £9,632,214. A final dividend of 7 per cent., less tax, making 11 per cent., less tax, has been approved for the year.

Track Laying Cranes for London Midland Region.—As part of a scheme for the wider use of the pre-fabricated track laying method the London Midland Region of British Railways is to purchase ten 8½-ton diesel-electric rail mounted cranes specially built for handling pre-assembled sections of track. They will move under their own power and will normally be

London Midland Region Horse Show



Mr. L. J. Callaghan, Parliamentary Secretary to the Ministry of Transport, presenting Mr. Ernie Jordan and his bay horse with the first prize in the London Midland Region contest for the smartest horse in London

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used with mechanised track-relaying trains for lifting out complete sections of old track and laying-in new pre-fabricated sections. These cranes will make possible the laying of about 70 miles of flat-bottomed track and 150 miles of R.B.S. track in pre-fabricated lengths each year with a considerable saving of time and money.

Bolivar Railway Co. Ltd.—The report for the year ended December 31, 1946, shows gross working receipts of Bolivares 1,345,202, and working expenses of Bolivares 1,434,660, leaving a deficiency of Bolivares 89,458, or £6,617. Addition of interest and other charges gives a deficit of £40,634.

Jones Cranes.—Jones KL Mobile Cranes are distributed in home markets by George Cohen, Sons & Co. Ltd., but not manufactured by that undertaking, as stated in *The Railway Gazette* of October 1. The cranes are made by K. & L. Steelfounders & Engineers Limited, one of the George Cohen, Sons & Co. Ltd. group of companies, which also handles export sales. The Jones KL 44 crane can be fitted with a grab in place of the normal lifting gear and is mounted on four 36 in. by 8 in. pneumatic tyres reinforced by restrictor rings.

New Bar for "Tees-Tyne Pullman."—To enable businessmen to meet each other on the train, a bar available to every passenger is running in the new "Tees-Tyne Pullman," which came into operation between Newcastle, Darlington, and Kings Cross with the winter timetable. This Pullman car, known as the Hadrian Bar, was built at the Preston Park Works, Brighton, and the bar is fabricated of Formica, a new De La Rue Insulation Limited decorative laminated plastic, which is impervious to stains and scratches. The counter top is in pink linette, with a deep red front, both in cigarette-proof grade. Panelling at the back of the bar is in grey linette Formica.

with a bottle rack in the centre, flanked by two interlaminated printed Pullman crests. Three other Pullman cars on this train are fitted with cigarette-proof Formica tables, which incorporate the interlaminated printed Pullman crest; these tables are in buff linette with the crests in chocolate brown.

Saunders Valve Company.—The net profit of the Saunders Valve Co. Ltd. for the year ended April 30, including that of its subsidiary, was £85,327. Of this amount £55,114 relates to the period of eight months prior to incorporation, and, after making a provision of £40,000 for taxation, the balance of £15,114 is being capitalised. From the remaining £30,213 the sum of £8,300 is provided for taxation and £8,700 reserved for future income tax.

Canadian Locomotive Production.—Eighty per cent. of the locomotive orders held by the Montreal Locomotive Works Limited for steam locomotives and the remaining 20 per cent. for the new diesel-electric shunting type which the company began to manufacture last year. The works has orders for 211 locomotives as well as substantial orders for process equipment which it builds for the refining and chemical industries. Of 171 steam locomotives on order, 160 are for export.

Progress of Silentbloc Limited.—At the annual meeting of the company on September 9, Mr. H. V. Strong, Chairman, said that, although we lived in a so-called planned society, one was fortunate if one could see even a few months ahead, and the tergiversations of policy had become a commonplace. Their company was exporting to 18 countries at the present time in a steadily expanding way. In the field of rail traction and of rubber suspension their engineers were closely co-operating with electric and diesel locomotive builders in evolving designs which incorporated their products—to introduce resilience into bogies and traction wheels and also for the suspension of coaches by entirely

new methods. Progress with practical designs had been made, and, following the successful outcome of running tests, they anticipated that substantial new business would result.

Permanent International Association of Navigation Congresses.—There has recently been formed, with the approval of the Ministry of Transport, a British National Committee in connection with the Permanent International Association of Navigation Congresses. The committee is composed of Sir William Halcrow (Chairman), Messrs. M. G. J. McHaffie, W. P. Shepherd-Barron, R. D. Gwyther, A. L. Harvey, C. A. Wilson, L. Cleaver, Sir Gilmour Jenkins, Mr. L. Leighton, Sir Cyril Kirkpatrick, Sir Arthur Whitaker, Mr. Maurice Nachshen, The Council of the Institution of Civil Engineers has consented to administer and provide secretarial facilities to the national committee.

Transferred Undertakings (Compensation to Employees) Regulations.—The British Transport Commission has made, and the Minister of Transport has approved, a Scheme delegating to the Railway Executive, London Transport Executive, Docks & Inland Waterways Executive, Road Transport Executive and Hotels Executive certain functions of the Commission under the Transferred Undertakings (Compensation to Employees) Regulations, 1948, and the Transferred Undertakings (Pensions of Employees losing Employment) Regulations, 1948. Copies of the Scheme may be obtained from the office of the Commission, 55, Broadway, Westminster, London, S.W.1, price 6d. each.

Canadian National Results.—A decrease of \$3,210,000 in the net revenue of the Canadian National Railways for August, and a decrease of \$22,762,000 in the net revenue for the eight months of 1948, as compared with the corresponding period of 1947, is announced. Accounts for August reflect the extraordinary increases in operating costs since a year ago. Wage increases for the month added \$3,790,000. Increased material prices were \$1,800,000, and expenses for repairing flood damage in Western Canada, \$412,000. For the eight-month wage-rate increases have cost the railway \$24,081,000, and increased material prices \$14,424,000.

Railway Bowls Championships.—The final matches in the National Bowls Championships promoted by the British Railways Athletic Association were played recently in Glasgow. The winners were:—Singles: Mr. H. Ham (London Transport, Wembley); pairs: Mr. W. West and Mr. W. F. Beck (Leicester); rink: Bathgate (beat Tunbridge Wells). The cups and other awards were presented by the Lord Provost of Glasgow (Sir Hector McNeill), who was accompanied by Sir Alex King, Mr. Tom Johnston (formerly Secretary of State for Scotland), and Messrs. J. Blair, Assistant Mechanical & Electrical Engineer, W. Campbell, Regional Welfare Officer, and S. J. Chapman, Works Accountant, and other officials of the Scottish Region, British Railways.

W. & T. Avery Limited.—The net consolidated profit for the past financial year was £322,077. To this falls to be added the profit applicable to other years, and the balance brought forward from last year, giving a total disposable profit of £551,385. Dividends paid and proposed on Avery stock for the year ended March 31, 1948, amounted to £102,101, leaving £173,484 unappropriated profit to be



A feature of the "Tees-Tyne Pullman" is the Hadrian Bar, which is available to all passengers

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

A DIESEL-ELECTRIC Rail Traction Engineer is required by a large Midland Engineering concern. Salary up to £700 per annum according to qualifications and experience. Reply age, etc., to Box 474, T. & G., 101, St. Martin's Lane, London, W.C.2.

FOR SALE: One Sentinel B.E. type Industrial Steam Locomotive, new condition. Maker's No. 9369. Standard gauge. Weight 24 tons. Output 100 h.p. Wheelbase 4 ft. 6 in. Max. height 10 ft. 21 in. Max width 7 ft. 6 in.—Apply Box 179, *The Railway Gazette*, 33, Tophill Street, Westminster, London, S.W.1.

THE EVOLUTION OF RAILWAYS. Second edition, revised and enlarged. By Charles E. Lee. Traces the germ of railways back to Babylonian times. Cloth. 8½ in. by 5½ in. 72 pp. Illustrated. 6s. By post 6s. 4d.

carried forward to the next account. Mr. Walford H. Turner, Chairman, presiding at the recent annual meeting, said that the demand for scales and testing machines had continued at a high level. The rebuilding of the Avery service organisation had received continuing attention, and they could now follow up the installation of machines with that prompt service on which the goodwill of the company had been so largely based.

American Railway Equipment for Greece.—Greece is to receive 16 locomotives, seven railcars, and a quantity of railway repair equipment under a new agreement between the Greek Government and the American Aid Mission. The Greek Transport Minister has stated that in eight months the rail connection between Athens and Salonika will be open again, and that by that time the Greek railways will have returned to their pre-war efficiency.

Turkish Rolling Stock Requirements.—The Turkish Minister of Communications recently stated that as at the end of September, 1948, Turkey had some 700 locomotives, of which half were 35 years old, and many built as long ago as 1868. Of orders for 80 new locomotives placed with the Vulcan Iron Works in the United States, 40 had so far been delivered, and 8 others were about to be delivered. Britain had delivered 25 locomotives, and was about to deliver a further 25. Czechoslovakia was expected to begin delivery of 50 locomotives early in 1949. Turkey needed at present 15 to 20 express locomotives. It was disclosed that the cost of 80 sleeping-coaches recently ordered from Austria was approximately £800,000. It is understood that Austria will use the proceeds to buy Turkish tobacco. It was planned to purchase abroad a number of refrigerator vans.

British Standards Institution.—The British Standards Institution recently has published A.23:1948, Equipment and method for long period, high sensitivity, tensile creep testing. This standard covers the essential requirements for testing equipment and method of test to cover tensile creep (total plastic) strains down to 0.001 (0.1 per cent.), and in periods up to 10,000 hr. It is applicable to standard tests on bars, plates, sections, sheets, and cast or forged parts of sufficient size.

Overseas Food Corporation

APPLICATIONS are invited for the appointment of Traffic Manager in East Africa. Applicants should have had a minimum of ten years' experience, preferably in the Traffic Department of a large commercial undertaking, or railway experience of a commercial nature, and be thoroughly versed in all matters concerning road and rail traffic. The Traffic Manager will be expected to organise and control (a) Rail movement of a wide variety of stores. (b) Road movement of persons and freight within the Territory. The successful applicant will be required to take up his appointment at an early date, but if married his wife and family will not be able to join him until married quarters are available, which may not be for a period up to eighteen months. During this period a separation allowance of £100 per annum will be paid. Conditions of service provide free passages to and from East Africa on appointment and for home leave. Home leave at the rate of six months every three years, with local leave in addition. Provision of housing and basic furniture as soon as this is available. Free medical treatment is provided and employees are required to join the Provident Fund. Commencing salary £800 in the scale £800-£1,100. Letters of application should include full details of experience and qualifications and be addressed to PERSONNEL MANAGER (TRAFFIC MANAGER), OVERSEAS FOOD CORPORATION, Unilever House, Blackfriars, E.C.4.

Copies of A.23:1948 can be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, at a cost of 1s. post free.

Macrone Limited.—Macrone Limited has appointed Progress Machinery Limited, 4, Lower Kevin Street, Dublin, as its agent in Eire.

Northern Aluminium Company's Sales Organisation.—The Northern Aluminium Co. Ltd. is opening a new sales office under the management of Mr. F. Layton, 27, Park Row, Leeds, 1; the territory will include Lincolnshire, Yorkshire (with the exception of Middlesbrough) and Rutland. The company's Newcastle office is now in the charge of Mr. D. M. Eadie.

British Aluminium Company's Sales Division.—Mr. H. Tilley has been appointed Assistant Sales Manager (Export) of the British Aluminium Co. Ltd. Mr. W. H. Marston is relinquishing his position as Manager of the company's Leeds Branch Office, at his own request, and will be transferred to its London Branch Office as from November 1; Mr. A. E. Heeley has been appointed Manager of Leeds Branch Office from the same date.

Road Accidents in August.—Road casualties in August totalled 394 killed and 15,427 injured, or a decrease of 35 deaths and 2,074 injured compared with the corresponding month last year. The decrease in deaths was mainly among motor cyclists, 51 of whom were killed, compared with 66 in July this year and 81 in August, 1947. The increase recorded in July in fatalities among adult pedestrians was continued, and the total of 109 in August was 19 more than in the previous month, and nine more than in August last year. Child deaths, including 65 pedestrians and 20 cyclists, numbered 93, a total of one more than in the corresponding month last year.

Plastics Information Service.—A new information service dealing with the application and fabrication of laminated plastics is to be inaugurated by the design section of De La Rue Insulation Limited, which was set up after the war to assist architects, designers, builders, shop fitters, furniture makers, bar fitters, transport undertakings, hospitals, stores, etc., on problems related to the use of laminated plastics. Among other work now being carried out by the section is technical

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following posts: ACCOUNTING ASSISTANT required by the East African Railways and Harbours for the Accounts Department, for service in Tanganyika for one tour of 24 to 36 months in the first instance. Salary according to qualifications, experience, and war service in scale £462 rising to £690 a year. Free passages and quarters. Provident fund terms. Candidates, not over 30, should have had a secondary school education and good general clerical experience in the Traffic Department at smaller stations on a Home Railway. Apply at once by letter, stating age, where married, or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/21643 (3E) on both letter and envelope.

THE "PAGET" LOCOMOTIVE.—Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2s. Post free 2s. 3d.

advice for all Regions of British Railways, London Transport, the Pullman Car Company, independent carriage and wagon companies, and the French Australian, Egyptian, Polish, Turkish, Spanish, Portuguese and Argentine railways.

Woodford & Hinton Station Renamed.—British Railways, Eastern Region, announces that on and from Monday, November 1, Woodford & Hinton Station will be renamed Woodford Halse.

Railway Students' Association.—Sir Cyril Hurcomb, Chairman of the British Transport Commission, will deliver his Presidential address to the Railway Students' Association, at the London School of Economics, on Wednesday, October 20, at 6.30 p.m. In the absence of the retiring President, Sir Alexander M. Carr Saunders, the Chair, will be taken by Brigadier-General Sir H. Osborne Mance, a past President.

Uruguay Rail Terms Approved.—At meetings on October 12 of ordinary stockholders and 5 per cent. second debenture stockholders of the Central Uruguay Railway Co. of Montevideo Ltd., the amended scheme for distributing the proceeds of the sale of the railway was approved by overwhelming majorities. In both cases the majority was well over 98 per cent. To approve the scheme a majority was required of 75 per cent. in value of the stock voted in each case. The result of the polls taken was as follows:

	Stock	For %*	Against %*
5% 2nd Deb.	... 2,259,198	99.85	3,295 0.15
Ordinary	... 3,186,742	99.28	23,080 0.72

*Ratio to the total votes cast (not to the total amounts of stock outstanding)

British Council Short-Term Bursary Scheme.—About 120 industrial and professional workers from overseas will have visited Great Britain before the end of 1948 under the British Council's short-term bursary scheme. The awards enable them to spend from three to six months in British factories, institutions, local government offices and other organisations. The scheme was launched in April, 1947. By March, 1948, there were approximately fifty holders of bursaries in Great Britain, and the scheme had extended to twenty-four countries. A locksmith from Poland, a market research worker from Spain, a telephone engineer from Italy, a printer from Iceland, a road engineer

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from Iraq, a railway clerk from Egypt, and a farmer from Kenya were among those to arrive this year. Three French railway employees are at present in England, holding three-month bursaries. The Council hopes that the good reports of those enabled to visit Great Britain in this way will do much to present a true picture of this country and its people to their acquaintances and fellow-workers in their home countries, and so enhance the prestige of British industry and commerce and act as a valuable influence in the establishment of international understanding.

Forthcoming Meetings

- October 15 (*Fri.*).—Institution of Railway Signal Engineers, at the London Transport Signal School, Earls Court Station, S.W.5, at 6.15 p.m. "Layout of Signals," by Mr. W. H. Challis.
- October 16 (*Sat.*).—The Permanent Way Institution, Manchester & Liverpool Section, at the Temperance Institute, 65, London Street, Southport, at 2.30 p.m. "Flat Bottom Track," by Mr. H. Ormiston.
- October 18 (*Mon.*).—Institute of Transport, at the Jarvis Hall, Royal Institute of British Architects, 66, Portland Place, London, W.1, at 5.30 p.m. for 6 p.m. Presidential address by Mr. D. R. Lamb.
- October 20 (*Weds.*).—Railway Students' Association, London School of Economics & Political Science (University of London), at 6.30 p.m. Presidential address by Sir Cyril Hurcomb, Chairman of the British Transport Commission.
- October 20 (*Weds.*).—The Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. "Adhesion and Friction in Rail Traction," by Mr. Jury Koffman.
- October 20 (*Weds.*).—Institute of Traffic Administration, South Wales & Mon. Centre, at the Queen's Hotel, Cardiff, at 7 p.m. "What Hopes for the Traffic Administrator?" by Mr. James Dunnage.
- October 20 (*Weds.*).—The Permanent Way Institution, London Section, at Denison House, 296, Vauxhall Bridge Road, S.W.1, at 6.30 p.m. "Brains Trust."
- October 20 (*Weds.*).—Institution of Railway Signal Engineers, at the Westinghouse Brake & Signal Co. Ltd., Chippenham, Wilts, at 7.30 p.m. "Layout of Signals," by Mr. W. H. Challis.
- October 21 (*Thurs.*).—British Railways, Western Region, London Lecture & Debating Society, in the Clerks' Dining Club, Bishop's Bridge Road, Paddington, at 5.45 p.m. "The Work of a District Goods Manager," by Mr. H. Bolton, District Goods Manager, Bristol.
- October 21 (*Thurs.*).—Diesel Engine Users' Association, at Caxton Hall, Westminster, London, S.W.1, at 2.30 p.m. "Diesel Fuel Research at Thornton Research Centre," by Mr. C. G. Williams.
- October 22 (*Fri.*).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, at 6 p.m. Presidential address by Captain (E) W. Gregson, R.N.R.
- October 23 (*Sat.*).—British Railways, Southern Region, Lecture & Debating Society. Visit to Tilmanstone Colliery, N.C.B. (Men members only.)

Railway Stock Market

British Transport 3 per cent. stock (1978-88) has at last changed hands over par, which is regarded as an achievement for this major nationalisation stock, of which there is over £1,000,000,000 issued. It is true that the present price of 100 $\frac{1}{2}$ carries fully 16s. of interest, so that bearing this in mind, it can be argued that strictly speaking the price should rise to 100 $\frac{1}{2}$ before it can be claimed that it is actually over par. Nevertheless, the upward movement seems likely to be continued in view of current trends, because money that has been awaiting investment is now being placed in British Funds until the international position and market outlook are less confused.

There was a fair amount of activity in foreign and other railway stocks, although the Brazilian section was quieter, the tendency being to await any fresh take-over developments arising from the visit of the Brazilian Government representative, who is to discuss the question of Brazil's sterling balances. Great Western of Brazil shares have fluctuated around 102s. 6d. Leopoldina ordinary were also lower on balance at 11 $\frac{1}{2}$, with the preference stock and debentures at 37 $\frac{1}{2}$ and 68 $\frac{1}{2}$ respectively, and Leopoldina Terminal debentures 64. San Paulo has been firm around 175. Central Uruguay ordinary and second debentures were steady at 11 $\frac{1}{2}$ and 80 $\frac{1}{2}$ respectively, awaiting final approval of the revised share-out scheme. United of Havana (1906) debentures were 16 $\frac{1}{2}$, and in other directions, Antofagasta ordinary firmed up to 9 $\frac{1}{2}$ after an earlier decline; the preference stock was 58. Reports of negotiations concerning the company's holdings of Manila Railroad refunding bonds led to rises in Manila Railway "A" and "B" debentures to 88 and 85 respectively, with the preference shares fluctuating around the better level of 10s. 6d. As was to be expected, French

railway sterling bonds were inclined to ease on the news from France. Canadian Pacifics were around 21 $\frac{1}{2}$, but elsewhere, Beira Railway bearer shares moved up to 62s. 6d. on the possibility of early "take-over" developments.

Feature in the road transport section was the continued advance in B.E.T. deferred stock, which at the time of writing has touched the new high level of £2,070. The rise is based on the market assumption of eventual negotiations with British Transport and on market estimates of the probable value of the B.E.T. road transport assets. Shares of road transport operating companies in the B.E.T. group again were active. Elsewhere, Tillinghast have moved narrowly around 120s., awaiting the company's expected statement as to how the directors propose dealing with the £24,800,000 from British Transport. At the time of writing, the market is continuing to talk of the possibility that Tillinghast may make a capital return of £5 per share. Elsewhere, Scottish Motor Traction shares have remained active around 112s., awaiting the outcome of the take-over negotiations.

Iron and steel shares remained firm and unaffected by Sir Stafford Cripps' reference to nationalisation. It is pointed out in the market, that in all probability, shareholders can rely on receiving dividends for 1948 and 1949 before nationalisation could be effected. Among shares of locomotive building and engineering companies, Gloucester Railway Carriage have changed hands up to 63s., the higher profits shown by the results creating good impression. Charles Roberts, after their recent advance, eased slightly to 7 $\frac{1}{2}$. North British Locomotive transferred at 24s. 6d. Vulcan Foundry at 28s., and in other directions, G. D. Peters 5s. ordinary were 15s. 6d. Imperial Chemical remained prominent and higher at 47s. 1 $\frac{1}{2}$ d. with the new shares at the new peak level of 26s. 9d.

Traffic Table of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffics for week			No. of weeks	Aggregate traffics to date	
			Total this year	inc. or dec. compared with 1946/47		1947/8	Total	Increase or decrease
				1947/8	1946/47			
Antofagasta...	811	3.10.48	£ 73,790	+ 19,838	39	2,148,120	£ 464,680	+ \$301,893
Bolivar ...	174	July, 1948	\$28,960	- \$69,357	30	\$471,287		
Brazil ...								
Cent. Uruguay ...	970	2.10.48	29,931	+ 340	13	436,487	— 9,106	
Costa Rica ...	281	July, 1948	35,904	+ 5,239	9	77,536	+ 14,013	
Dorada ...	70	Aug., 1948	34,163	- 3,063	30	209,829	+ 34,071	
G.V. of Brazil ...	1,040	2.10.48	34,400	- 4,100	39	1,252,100	— 4,900	
Inter. Ctl. Amer. ...	794	Aug., 1948	\$996,899	- \$52,158	35	\$9,169,618	+ \$157,550	
La Guaira ...	22 $\frac{1}{2}$	Sept., 1948	\$101,522	+ 44,339	39	938,856	+ 49,239	
Leopoldina ...	1,920	2.10.48	53,292	+ 24,393	39	2,210,555	+ 44,905	
Midland Uruguay ...	319	Aug., 1948	22,288	+ 5,183	8	45,295	+ 11,146	
Nitrato ...	382	30.9.48	14,111	+ 5,869	39	231,923	+ 59,369	
N.W. of Uruguay ...	113	Aug., 1948	4,784	+ 800	8	10,013	+ 2,566	
Paraguay Cent. ...	274	1.10.48	£ 97,478	+ £ 29,811	13	£ 1,324,039	+ £ 593,798	
Peru Corp. ...	1,059	Sept., 1948	196,290	+ 10,710	13	547,471	+ 29,708	
Salvador ...	100	July, 1948	c85,000	+ c10,000	4	c85,000	+ c10,000	
San Paulo ...	153 $\frac{1}{2}$							
Talat ...	156	Sept., 1948	8,255	+ 2,845	13	23,760	+ 7,345	
United of Havana ...	1,301	2.10.48	45,096	- 16,624	13	587,767	+ 243,814	
Uruguay Northern ...	73	Aug., 1948	935	- 105	8	2,105	- 72	
South & Central America								
Canadian National ...	23,473	Aug., 1948	10,110,000	+ 855,250	35	77,676,250	+ 5,854,000	
Canadian Pacific ...	17,037	Aug., 1948	7,735,500	+ 1,083,250	35	55,397,000	+ 4,108,000	
Canada								
Barsi Light ...	202	Aug., 1948	22,485	- 3,832	22	136,492	- 4,155	
Beira ...	204	July, 1948	122,639	+ 24,114	43	1,171,283	+ 243,861	
Egyptian Delta ...	607	10.9.48	19,946	+ 1,709	23	291,055	+ 29,461	
Gold Coast ...	536	Aug., 1948	158,926	+ 2,524	22	1,020,332	+ 236,755	
Manila ...	—							
Mid. of W. Australia ...	277	July, 1948	23,987	+ 4,505	4	23,987	+ 4,505	
Nigeria ...	1,900	July, 1948	504,437	+ 130,659	17	1,796,629	+ 380,119	
Rhodesia ...	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938	
South Africa ...	13,347	4.9.48	1,405,764	+ 131,412	22	29,767,410	+ 1,840,723	
Victoria ...	4,774	May, 1948	1,439,718	+ 456,084	48			

† Receipts are calculated @ 1s. 6d. to the rupee